

State of Maryland Maryland Health Care Commission

Selected Health Statistics for Medicare Recipients and Privately Insured Maryland Residents: County-Level Estimates from the 1998 Medical Care Database

Extramural Report

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Introduction

This report contains 1998 county-level estimates of the utilization of selected health services for Medicare recipients and privately insured residents in the state of Maryland. The health statistics contained in this report were compiled in an effort to assist county public health officers in improving the health of Maryland residents by providing information that may be used to monitor the health of the population and guide planning decisions. The Maryland Health Care Commission (MHCC) developed this report as a prototype to demonstrate the types of public health information that may be gathered from the Maryland Medical Care Database (MCDB), an all-payer claims-based database that was developed under the sponsorship of the MHCC. Although data from the MCDB have been used to assess patterns of health care utilization and expenditures throughout the state, this report represents the first application of the MCDB in public health practice.

The process leading to this report began with a 1997 study of the health information needs of county health departments that was commissioned by the Maryland Association of County Health Officers (MACHO). One of the study recommendations was that efforts be made to explore the use of large databases maintained by the Department of Health and Mental Hygiene (DHMH) to support the information needs of local health officers. A 1999 study furthered this process by identifying uses and limitations of data from the MCDB in public health practice¹. As part of this 1999 study, extensive discussions were held with local health officers to identify the health information that would be most useful in public health practice. The health statistics contained in this report were identified through that process, and include the following:

- the most frequently billed diagnoses;
- the most frequently billed emergency room diagnoses;
- mammography rates;
- pap smear rates;
- rates of receipt of hemoglobin A1c tests among individuals with diabetes;
- rates of receipt of pulmonary function tests among individuals with asthma;
- rates of receipt of influenza vaccine; and
- rates of receipt of pneumonia vaccine.

Health Information Available from the MCDB

Under state regulation (COMAR 10.25.6) all third-party payers with a premium volume exceeding established limits are required to submit data corresponding to non-institutional and professional services rendered to insured Maryland residents, including services provided by physicians, non-physician health care professionals, durable medical equipment providers, freestanding laboratories, and surgical and radiology centers. Payers are required to report information on all fee-for-service encounters as well as capitated encounters associated with

¹ *Recommendations On: Use of the Maryland Medical Care Data Base for Public Health Practice*, Wayne Brandes, October 7, 1999.

specialty care services. Payers are not required to report information on capitated primary care encounters.

The data that payers submit to the Maryland Health Care Commission and that comprise the MCDB include encrypted patient identifiers, diagnostic information (e.g., ICD-9-CM), procedure or service information (e.g., CPT-4, HCPCS), details of the visit (e.g., place of service, provider specialty), charges and reimbursement. The data contained in the MCDB represent health care services provided to state residents who obtain their health coverage from an HMO, PPO, point-of-service plan, indemnity plan, or who are Medicare Beneficiaries with Part B coverage. The 1998 MCDB does not contain health care utilization records for either uninsured residents of the state or Maryland Medicaid recipients.

In addition to the uninsured and Medicaid recipients, there are two groups of state residents not represented in the MCDB. The first group is residents who do not obtain coverage from a Maryland-registered insurer, either because they are uninsured, their insurance company or HMO is not registered in the state, or a self-insured company provides them with coverage. The second group includes residents who are covered by Maryland-registered insurers but who do not have an MCDB records because they did not use covered outpatient services, did not meet their deductible, or only received capitated primary care services². Groups of residents excluded from the MCDB are listed in Table 1.1.

It is important to note that particular counties in the state are more likely to have residents that are excluded from the MCDB. For example, areas of the state with large uninsured and Medicaid populations (e.g., Baltimore City) will have a larger proportion of their residents that are not represented in the MCDB. Counties (e.g., Cecil) where many residents are employed outside of the state or in multi-state firms (with corporate headquarters outside of Maryland) may also have a greater proportion of residents that are not represented in the MCDB since these residents may be more likely to obtain coverage from a non-Maryland registered insurer. Finally, counties with higher HMO penetration rates may also have a greater proportion of residents excluded from the MCDB if these HMOs reimburse primary care providers on a capitated basis.

A subset of the health care services rendered to insured residents of the state are also omitted from the MCDB; these services are listed in Table 1.1. The first category of services omitted from the MCDB includes services that are exempt from state reporting requirements, such as primary care services that are reimbursed on the basis of capitation and laboratory and radiological services that are provided by hospitals on an inpatient or outpatient basis.

The second category of services omitted from the MCDB consists of those services for which a claim was not submitted to the insurer or HMO, and subsequently not included in the provider's data filings. One example of a service for which a claim would not be available is a service that the employer (if self-insured) or payer has "carved-out."³ Other examples include

² State regulation does not require payers to submit records corresponding to capitated primary care services. However, a few HMOs submit this data and these records are represented in the MCDB.

³ A "carve-out" is a strategy by which the payer designates a service or set of services to be provided by a managed care organization or other insurer on a contractual basis. An employer may choose to carve-out or self-insure for a

services for which the payer has shifted financial risk to the provider, such as through global capitation, or for which one provider shifts risk to another downstream provider through a subcontract arrangement.⁴ Finally, services that patients received but that were not covered by the insurer or HMO and services for which the deductible was not met are also excluded from the MCDB.

Accuracy of Health Statistics Reported

Regardless of the reason, omission of residents and services may affect the accuracy of the health statistics that are computed with the MCDB. The size and direction of the gap between the actual rates and the estimated rates presented in this report depend on the size and type of data loss that occurs in the MCDB for that service.

In interpreting the health statistics in this report it is important to consider that the omission of residents will produce counts of selected conditions (e.g., diabetes, asthma) that are lower than the actual count in the insured population. Moreover, health statistics estimated with the MCDB may deviate to a greater degree for those counties that are more likely to have residents excluded from the database, as previously discussed.

The omission of services may understate preventive service utilization rates (e.g., mammography rates, Pap smear rates, hemoglobin A1c rates, and pulmonary function testing rates). However, deviations between the preventive service use rates generated with MCDB data and the actual rate are expected to be less for the Medicare population than for the privately insured population. This is due to the fact that Medicare coverage of these services is uniform, Medicare does not impose deductibles on use of the preventive services considered, and Medicare beneficiaries are more likely to use health services⁵, and thus to have an MCDB record, than the non-Medicare population.

Organization of Report

The tables of health statistics that comprise this report are organized into two sections. The health statistics reported in the first section were calculated for the populations of Medicare beneficiaries and privately insured residents combined. Included in this section are tables of: (A) the population represented in the MCDB and county population estimates from the US Census Bureau; (B) the proportion of residents with a physician visit for evaluation and management (E&M) services as well as the most frequent outpatient and emergency room diagnoses; (C) rates of receipt of selected preventive health services; and (D) rates of receipt of preventive measures recommended for patients with diabetes and asthma.

set of services and an administrator, other than the HMO or insurer, is responsible for claims payment. Among the most common benefits delivered on a “carve-out” basis are behavioral health services.

⁴ Risk may be transferred for a set of services (e.g., primary care) or a particular type of service (e.g., vision care, laboratory services).

⁵ Analyses from the 1996 Medicare Current Beneficiary Survey (*1996 Characteristics and Perceptions of the Medicare Population*, HCFA) indicate that approximately 13 percent of Medicare beneficiaries did not use at least one physician service in 1996. The proportion of privately insured residents not seeking care is likely to be greater since younger persons tend to be healthier and have less need for care than the elderly or disabled.

The second section of this report contains comparable health statistics for the Medicare aged and disabled population, and includes: (A) most frequent outpatient and emergency room diagnoses; (B) rates of receipt of selected preventive health services; and (C) rates of receipt of preventive measures recommended for patients with diabetes and asthma.

Preceding each subsection or group of tables are key details on how statistics were computed and a brief discussion of factors that may contribute to significant data loss or that reduce the accuracy of health statistics reported.

Notes to the tables are included in the Appendix to provide further detail on how individual statistics were computed.

Table 1.1
Maryland Residents and Services Not Represented in the 1998 MCDB

Maryland Residents Not Represented in the 1998 MCDB		Services or Records Not Represented in the 1998 MCDB
<p><i>Residents not covered by Maryland-registered insurers, including:</i></p> <ul style="list-style-type: none"> • Uninsured residents • Residents insured by companies or HMOs not registered in Maryland • Residents covered by self-insured companies that do not use a Maryland-registered insurer as the third-party administrator 		<p><i>Services exempt from MCDB submission requirements, including:</i></p> <ul style="list-style-type: none"> • Capitated primary care services • Laboratory and radiological services provided by a hospital, on either an inpatient or outpatient basis
<p><i>Residents covered by Maryland-registered insurers, who:</i></p> <ul style="list-style-type: none"> • Did not use outpatient services • Used only non-covered services • Received services, but did not meet the deductible • Are enrolled in an HMO and only used capitated primary care services 		<p><i>Services for which a claim was not recorded because:</i></p> <ul style="list-style-type: none"> • The service was a “carve-out” • Under the insurer or HMO financial arrangements, risk is transferred to the provider (such as in the case of global capitation) or the provider has transferred risk to another provider (through a subcontract arrangement) • Services were paid directly by the patient, but not submitted to the insurer or HMO • Services were not covered or were in excess of coverage limits

A. Population Estimates

Organization of Tables

This section contains information on the number of Maryland residents represented in the 1998 MCDB (Table 2.A.1) and the 1998 population as reported by the US Census Bureau (Table 2.A.2.). These estimates are reported by county, age and gender.

Ratios of the number of county residents with an MCDB record to the county population are presented in Table 2.A.3 to demonstrate differences across counties in the percentage of residents that may not be represented in the health statistics contained in this report.

Caveats and Notes

As stated in Table 1.1 of the introduction to this report, several groups of residents are not represented in the MCDB. Differences across counties in the proportion of residents represented in the MCDB may be due to differences in (1) utilization of services, (2) the proportion of residents enrolled in Medicaid or that are uninsured, and (3) the proportion of residents who are employed by an out-of-state or multi-state firm.

As indicated in Table 2.A.3, the ratio of over-age-65 persons in the MCDB to county populations exceeds 100 percent in several counties, including Allegany, Carroll, Kent, Wicomico and Worcester. One reason why MCDB counts could exceed Census estimates is that some individuals in these counties may be double-counted in the MCDB. This may occur, for example, because of plan switching (e.g. disenrollment of patients between the traditional Medicare program and a Medicare HMO, or between private health plans or Medicare HMOs).⁶ However, comparison of published Medicare Part B county enrollment estimates⁷ (which exclude counts of beneficiaries in Medicare HMOs), and county population estimates from the U.S. Census Bureau⁸ indicates that, with the exception of Wicomico County, the counts of Medicare over-age-65 Part B enrollees exceeds census estimates of the county population. This suggests that the discrepancy between the number of persons over the age of 65 in the MCDB and the county over 65 population may be attributable to errors in the estimates of county population.

⁶ Cases in which the designated payer was not the primary payer were excluded in order to avoid multiple counting of Medicare beneficiaries with supplemental insurance coverage. However, because data are not available to determine whether or not a patient switched from one primary payer to another during the year, it is possible that these individuals are over-represented in the data.

⁷ 1998 Health Care Financing Administration State and County Enrollment Figures, www.hcfa.gov.

⁸ U.S. Census Bureau Current Population Counts, www.census.gov.

Table 2.A.1: Total Number of Persons Represented in the 1998 Maryland Medical Care Database, by County, Gender and Age

	Total Population	Gender		Age (in years)				
		Males	Females	<18	18-39	40-50	51-64	65+
State of Maryland	3,016,797	1,259,295	1,753,079	686,865	801,170	523,886	468,741	530,277
<i>Counties</i>								
Allegany	43,609	18,754	24,834	8,196	8,377	6,272	7,238	13,484
Anne Arundel	292,683	125,102	167,309	68,570	79,605	51,079	48,167	44,826
Baltimore	452,742	189,293	263,094	94,572	111,719	76,145	69,468	100,128
Baltimore City	324,524	127,907	196,474	63,988	77,645	52,131	49,173	81,245
Calvert	44,098	18,814	25,245	12,125	11,583	7,996	6,385	5,962
Caroline	18,582	8,023	10,532	4,614	4,578	2,941	2,644	3,777
Carroll	105,550	46,631	58,759	27,600	27,383	18,738	15,363	16,252
Cecil	40,871	17,828	22,981	10,462	10,608	6,462	5,425	7,852
Charles	64,130	26,909	37,124	16,223	19,385	11,275	9,743	7,386
Dorchester	19,710	8,226	11,350	4,304	4,101	2,947	3,174	5,031
Frederick	129,681	55,976	73,319	34,204	37,416	23,550	17,594	16,476
Garrett	13,733	5,948	7,761	3,248	2,693	1,933	2,081	3,747
Harford	130,171	57,090	72,948	33,661	35,245	22,768	19,827	18,502
Howard	149,483	64,536	84,798	39,889	44,094	28,316	22,961	13,982
Kent	14,810	6,414	8,382	3,087	3,105	2,131	2,358	4,103
Montgomery	522,817	219,791	301,981	120,158	144,111	95,093	79,919	82,203
Prince George's	389,427	150,977	237,935	84,043	117,521	72,647	65,537	49,194
Queen Anne's	24,794	10,910	13,857	6,192	6,183	4,219	4,098	4,063
Somerset	11,468	4,718	6,741	2,281	2,286	1,704	1,824	3,362
St. Mary's	46,478	20,040	26,306	11,819	12,977	7,918	6,963	6,646
Talbot	24,378	10,441	13,885	5,305	5,069	3,765	4,002	6,163
Washington	72,625	31,327	40,796	14,148	17,450	11,468	12,056	16,952
Wicomico	50,796	20,958	29,725	12,508	12,025	8,213	7,516	10,407
Worcester	29,637	12,682	16,943	5,668	6,011	4,175	5,225	8,534

**Table 2.A.2: Total 1998 Population for Maryland Counties, by County, Gender and Age,
Estimates from the US Census Bureau**

	Total Population	Gender		Age (in years)				
		Males	Females	<18	18-39	40-50	51-64	65+
State of Maryland	5,134,808	2,494,656	2,640,152	1,287,190	1,713,135	887,269	655,668	591,546
<i>Counties</i>								
Allegany	71,333	33,920	37,413	16,200	19,459	10,804	11,487	13,383
Anne Arundel	476,060	239,940	236,120	119,923	158,146	87,991	62,566	47,434
Baltimore	721,874	345,242	376,632	160,471	226,542	119,579	101,971	113,311
Baltimore City	645,593	301,090	344,503	164,831	220,834	93,923	81,488	84,517
Calvert	71,877	35,893	35,984	20,810	22,546	13,235	8,556	6,730
Caroline	29,489	14,424	15,065	8,025	8,574	4,693	4,134	4,063
Carroll	149,697	74,201	75,496	40,691	46,362	28,481	18,489	15,674
Cecil	82,522	41,390	41,132	23,334	25,467	14,278	10,726	8,717
Charles	117,963	58,685	59,278	35,556	39,377	21,366	12,834	8,830
Dorchester	29,503	13,999	15,504	7,021	8,171	4,565	4,533	5,213
Frederick	186,777	92,609	94,168	50,828	62,667	33,642	22,025	17,615
Garrett	29,238	14,380	14,858	8,074	8,113	4,593	4,147	4,311
Harford	214,668	106,303	108,365	59,269	67,971	39,310	27,064	21,054
Howard	236,388	117,719	118,669	62,141	81,501	48,718	26,994	17,034
Kent	18,925	9,130	9,795	4,065	5,571	2,901	2,860	3,528
Montgomery	840,879	404,727	436,152	202,085	281,335	152,292	106,823	98,344
Prince George's	777,811	374,568	403,243	196,241	292,438	138,009	89,520	61,603
Queen Anne's	39,672	19,678	19,994	9,980	11,454	7,035	6,067	5,136
Somerset	24,296	13,147	11,149	4,888	9,367	3,296	3,226	3,519
St. Mary's	87,670	44,415	43,255	25,961	30,617	13,657	9,583	7,852
Talbot	33,065	15,776	17,289	7,105	8,545	5,301	5,278	6,836
Washington	127,352	64,757	62,595	29,848	40,627	20,467	18,093	18,317
Wicomico	79,367	38,107	41,260	20,254	25,689	12,766	10,415	10,243
Worcester	42,789	20,556	22,233	9,589	11,762	6,367	6,789	8,282

Table 2.A.3: Ratio of Persons Represented in the 1998 Maryland Medical Care Database to 1998 US Census Bureau Population Estimates, by County, Gender and Age (Percent)

	Total Population	Gender		Age (in years)				
		Males	Females	<18	18-39	40-50	51-64	65+
State of Maryland	58.8	50.5	66.4	53.4	46.8	59.0	71.5	89.6
<i>Counties</i>								
Allegany	61.1	55.3	66.4	50.6	43.0	58.1	63.0	100.8*
Anne Arundel	61.5	52.1	70.9	57.2	50.3	58.1	77.0	94.5
Baltimore	62.7	54.8	69.9	58.9	49.3	63.7	68.1	88.4
Baltimore City	50.3	42.5	57.0	38.8	35.2	55.5	60.3	96.1
Calvert	61.4	52.4	70.2	58.3	51.4	60.4	74.6	88.6
Caroline	63.0	55.6	69.9	57.5	53.4	62.7	64.0	93.0
Carroll	70.5	62.8	77.8	67.8	59.1	65.8	83.1	103.7*
Cecil	49.5	43.1	55.9	44.8	41.7	45.3	50.6	90.1
Charles	54.4	45.9	62.6	45.6	49.2	52.8	75.9	83.6
Dorchester	66.8	58.8	73.2	61.3	50.2	64.6	70.0	96.5
Frederick	69.4	60.4	77.9	67.3	59.7	70.0	79.9	93.5
Garrett	47.0	41.4	52.2	40.2	33.2	42.1	50.2	86.9
Harford	60.6	53.7	67.3	56.8	51.9	57.9	73.3	87.9
Howard	63.2	54.8	71.5	64.2	54.1	58.1	85.1	82.1
Kent	78.3	70.3	85.6	75.9	55.7	73.5	82.4	116.3*
Montgomery	62.2	54.3	69.2	59.5	51.2	62.4	74.8	83.6
Prince George's	50.1	40.3	59.0	42.8	40.2	52.6	73.2	79.9
Queen Anne's	62.5	55.4	69.3	62.0	54.0	60.0	67.5	79.1
Somerset	47.2	35.9	60.5	46.7	24.4	51.7	56.5	95.5
St. Mary's	53.0	45.1	60.8	45.5	42.4	58.0	72.7	84.6
Talbot	73.7	66.2	80.3	74.7	59.3	71.0	75.8	90.2
Washington	57.0	48.4	65.2	47.4	43.0	56.0	66.6	92.5
Wicomico	64.0	55.0	72.0	61.8	46.8	64.3	72.2	101.6*
Worcester	69.3	61.7	76.2	59.1	51.1	65.6	77.0	103.0*

* Refer to the text in Section 2.A for a discussion of the factors that may account for ratios that are greater than 100 percent.

B. Most Frequent Diagnoses for which Privately Insured Residents and Medicare Beneficiaries in the MCDB Sought Outpatient and Emergency Room Treatment

Organization of Tables

Table 2.B.1 reports the number and percentage of individuals represented in the MCDB with one or more physician encounters for evaluation and management (E&M) services. Estimates of the number of residents with an E&M visit by age and gender are reported in Table 2.B.2. Tables 2.B.3 and 2.B.5, indicate the top 15 diagnoses for which privately insured and Medicare beneficiaries with an MCDB record sought outpatient and emergency room treatment, respectively. Estimates are reported separately for individual counties as well as for the state of Maryland as a whole. Tables 2.B.4 and 2.B.6, provide a breakdown of the most frequently occurring outpatient physician and emergency room diagnoses, by age group.

Identifying Patients with E&M Physician Visits

Individuals with an MCDB record and with one or more physician visits in which the CPT-4 procedure code was in the range between 99200 and 99499 were identified as having an E&M visit. Individuals were represented only once in the counts of persons with an E&M visit regardless of whether they had one or more than one E&M visit during the year.

Determining Top Outpatient Diagnoses

The outpatient diagnoses categories with the highest frequency were identified from those records associated with an E&M procedure code. This was done to ensure that the coded diagnosis was based on a “face-to-face” encounter where the patient’s condition was assigned based on a clinician’s judgement and not by clerical or technical personnel with limited knowledge of the patient’s diagnosis. This criterion excludes records for services performed outside of a physician’s office, many of which correspond to radiological, laboratory, and certain diagnostic services.

Additionally, each patient is counted only once to ensure that individuals with chronic conditions that may require more frequent physician visits are not over-represented. In other words, although patients may have sought treatment for a given condition on multiple occasions, they are represented only once in the count of patients with that condition. However, if a patient sought treatment for more than one condition, that patient is represented once in the counts of each condition with which they were diagnosed.

Data presented in Table 2.B.3 should be interpreted as in the following example, which is based on data for All Maryland:

Over 407,000 state residents with an MCDB record who visited a physician on one or more occasions in 1998 were diagnosed with essential hypertension. A total of 14

percent of all patients in the MCDB who received outpatient physician services were diagnosed with essential hypertension.

Data presented in Table 2.B.4 should be interpreted as in the following example, which is based on data for individuals less than 18 years of age:

A total of 99,715 or approximately 15 percent of children with an MCDB record who were treated by a physician on one or more occasions in 1998 were diagnosed with acute pharyngitis.

Determining Top Emergency Room Diagnoses

With the exception that the E&M procedure screen was not applied to emergency room visits, the top emergency room diagnoses were determined in a manner comparable to that of the top outpatient diagnoses. An emergency room visit was identified on the basis of a “place of service” code contained in the MCDB. Counts contained in Tables 2.B.5 and 2.B.6 include unique patients with one or more emergency room visits for a given condition. Patients with multiple diagnoses were included once in each of the counts of the conditions for which they were diagnosed.

Data presented in Table 2.B.5 should be interpreted as in the following example, which is based on data for All Maryland:

A total of 77,697 individuals – nearly 28 percent of patients who received emergency room treatment at least once in 1998-was diagnosed with respiratory system or other chest symptoms.

Data presented in Table 2.B.6 should be interpreted as in the following example, which is based on data for individuals less than 18 years of age:

A total of 4,759 children – nearly 13 percent of all children who received emergency room treatment at least once in 1998-were diagnosed with an unspecified injury.

Caveats and Notes

The number of county residents who were diagnosed with a specific condition may be under-counted due to the exclusion of selected population groups and services from the MCDB. Also, as a result of the omission of services that were mentioned in the Introduction to this report, estimates of the proportion of individuals with an MCDB record who were diagnosed with any of these conditions may be understated.

Table 2.B.1: Total Number of Persons Represented in the 1998 Maryland Medical Care Database, With an E&M Visit, by County

	Total Population in the MCDB	Number with an E&M Visit*	Percent with an E&M Visit
State of Maryland	3,016,797	2,509,724	83.2
<i>Counties</i>			
Allegany	43,609	38,555	88.4
Anne Arundel	292,683	252,836	86.4
Baltimore	452,742	392,875	86.8
Baltimore City	324,524	280,301	86.4
Calvert	44,098	35,753	81.1
Caroline	18,582	16,461	88.6
Carroll	105,550	90,838	86.1
Cecil	40,871	36,059	88.2
Charles	64,130	53,032	82.7
Dorchester	19,710	17,778	90.8
Frederick	129,681	103,165	79.6
Garrett	13,733	12,186	88.7
Harford	130,171	113,501	87.2
Howard	149,483	126,362	84.5
Kent	14,810	13,278	89.7
Montgomery	522,817	414,660	79.3
Prince George's	389,427	286,808	73.7
Queen Anne's	24,794	21,864	88.2
Somerset	11,468	10,192	88.9
St. Mary's	46,478	39,174	84.6
Talbot	24,378	21,775	89.3
Washington	72,625	60,691	83.6
Wicomico	50,796	44,983	88.6
Worcester	29,637	26,597	89.7

* Includes all persons with an MCDB record with one or more physician visits in which E&M services were rendered.

**Table 2.B.2: Percent of Persons Represented in the 1998 Maryland Medical Care Database,
With an E&M Visit*, by County, Age and Gender**

	Total Population	Gender		Age (in years)				
		Males	Females	<18	18-39	40-50	51-64	65+
State of Maryland	83.2	83.2	83.4	84.8	78.7	79.6	82.0	92.9
<i>Counties</i>								
Allegany	88.4	87.2	89.4	83.7	84.6	85.7	87.1	95.7
Anne Arundel	86.4	86.3	86.6	88.5	82.5	83.4	85.9	94.3
Baltimore	86.8	86.4	87.2	87.4	82.2	83.9	86.4	94.1
Baltimore City	86.4	86.2	86.6	85.1	82.1	84.4	87.1	92.5
Calvert	81.1	81.6	80.8	85.7	76.1	75.5	77.7	92.8
Caroline	88.6	87.9	89.4	89.6	87.3	85.6	87.3	92.7
Carroll	86.1	85.7	86.6	87.1	82.8	82.8	86.6	93.9
Cecil	88.2	87.8	88.8	88.2	85.1	85.8	88.9	94.6
Charles	82.7	83.1	82.6	85.0	79.6	79.1	80.8	94.7
Dorchester	90.8	90.4	91.2	90.5	88.3	89.1	90.4	94.5
Frederick	79.6	78.3	81.0	80.6	75.7	75.5	79.5	93.7
Garrett	88.7	88.6	89.1	87.2	85.8	87.0	88.8	93.7
Harford	87.2	86.8	87.7	88.7	84.4	85.0	86.3	93.9
Howard	84.5	84.0	85.1	86.7	81.0	82.0	85.4	94.0
Kent	89.7	88.3	90.9	88.8	85.7	86.5	90.3	94.8
Montgomery	79.3	79.2	79.7	83.5	74.8	74.5	75.7	90.7
Prince George's	73.7	75.4	72.7	76.4	86.9	69.4	72.1	89.0
Queen Anne's	88.2	87.6	88.8	90.3	85.2	85.5	87.1	94.0
Somerset	88.9	87.1	90.2	87.7	83.9	86.4	89.0	94.5
St. Mary's	84.6	84.6	84.5	85.0	79.9	81.7	85.2	95.3
Talbot	89.3	88.3	90.4	89.4	86.3	85.9	88.4	95.2
Washington	83.6	82.7	85.3	83.3	81.5	81.5	78.2	93.6
Wicomico	88.6	87.4	89.7	88.6	85.1	86.7	88.2	95.2
Worcester	89.7	89.1	90.3	90.6	85.9	87.5	88.4	93.9

* The denominator includes all patients with a 1998 MCDB record.

**Table 2.B.3: Most Frequent Diagnoses among Privately Insured Residents
and Medicare Beneficiaries with an MCDB Record, by County**

All Maryland			Allegany County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	407,589	14.0	Essential Hypertension	9,316	21.6
Respiratory System/Other Chest Symptoms	258,732	8.9	Disease of Lipoid Metabolism	4,771	11.1
General Symptoms	253,725	8.7	Respiratory System/Other Chest Symptoms	3,778	8.8
Disease of Lipoid Metabolism	251,433	8.6	Diabetes Mellitus	3,725	8.6
Acute Upper Respiratory Infection Multiple Sites	207,020	7.1	Other Chronic Ischemic Heart Disease	3,502	8.1
Acute Pharyngitis	178,284	6.1	General Symptoms	3,372	7.8
Other Abdomen/Pelvis Symptoms	162,987	5.6	Osteoarthritis	3,255	7.6
Diabetes Mellitus	155,942	5.4	Acute Bronchitis/Bronchiolitis	2,830	6.6
Acute Sinusitis	148,860	5.1	Acute Sinusitis	2,765	6.4
Joint Disorder	143,286	4.9	Acute Upper Respiratory Infection Multiple Sites	2,731	6.3
Acute Bronchitis/Bronchiolitis	136,372	4.7	Other Abdomen/Pelvis Symptoms	2,450	5.7
Allergic Rhinitis	135,392	4.6	Back Disorder	2,254	5.2
Back Disorder	130,494	4.5	Joint Disorder	2,054	4.8
Other Urinary Tract Disorder	125,055	4.3	Heart Failure	2,034	4.7
Osteoarthritis	121,687	4.2	Cardiac Dysrhythmias	2,018	4.7
Anne Arundel County			Baltimore County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	35,917	12.7	Essential Hypertension	75,866	17.2
Acute Upper Respiratory Infection Multiple Sites	26,924	9.5	Disease of Lipoid Metabolism	47,280	10.7
General Symptoms	26,081	9.2	Respiratory System/Other Chest Symptoms	43,980	10.0
Respiratory System/Other Chest Symptoms	25,549	9.0	General Symptoms	42,293	9.6
Disease of Lipoid Metabolism	25,283	8.9	Acute Upper Respiratory Infection Multiple Sites	31,851	7.2
Acute Sinusitis	20,104	7.1	Acute Pharyngitis	27,467	6.2
Acute Pharyngitis	19,221	6.8	Joint Disorder	26,317	6.0
Other Abdomen/Pelvis Symptoms	16,313	5.7	Other Abdomen/Pelvis Symptoms	25,546	5.8
Diabetes Mellitus	14,540	5.1	Diabetes Mellitus	25,264	5.7
Back Disorder	13,786	4.9	Osteoarthritis	23,783	5.4
Allergic Rhinitis	13,691	4.8	Back Disorder	23,457	5.3
Joint Disorder	13,538	4.8	Acute Sinusitis	22,602	5.1
Otitis Media, Suppurative	13,203	4.7	Acute Bronchitis/Bronchiolitis	22,025	5.0
Acute Bronchitis/Bronchiolitis	12,729	4.5	Other Chronic Ischemic Heart Disease	21,512	4.9
Other Urinary Tract Disorder	12,274	4.3	Allergic Rhinitis	21,118	4.8

* Includes all patients with a 1998 MCDB record and the selected diagnosis; † the denominator includes all patients with a 1998 MCDB record and a corresponding E&M code.

**Table 2.B.3 (continued): Most Frequent Diagnoses among Privately Insured Residents
and Medicare Beneficiaries with an MCDB Record, by County**

Baltimore City			Calvert County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	65,587	20.7	Essential Hypertension	4,584	10.6
Respiratory System/Other Chest Symptoms	33,439	10.6	Acute Upper Respiratory Infection Multiple Sites	3,788	8.8
General Symptoms	29,913	9.5	General Symptoms	3,089	7.2
Disease of Lipoid Metabolism	29,544	9.3	Respiratory System/Other Chest Symptoms	2,914	6.8
Diabetes Mellitus	26,023	8.2	Other Abdomen/Pelvis Symptoms	2,537	5.9
Osteoarthritis	19,538	6.2	Acute Pharyngitis	2,487	5.8
Joint Disorder	19,259	6.1	Disease of Lipoid Metabolism	2,381	5.5
Acute Upper Respiratory Infection Multiple Sites	19,104	6.0	Acute Sinusitis	2,143	5.0
Other Abdomen/Pelvis Symptoms	18,471	5.8	Acute Bronchitis/Bronchiolitis	2,125	4.9
Other Chronic Ischemic Heart Disease	15,740	5.0	Contact Dermatitis	1,985	4.6
Other Urinary Tract Disorder	15,721	5.0	Otitis Media, Suppurative	1,863	4.3
Back Disorder	15,463	4.9	Diabetes Mellitus	1,841	4.3
Cardiac Dysrhythmias	15,098	4.8	Other Urinary Tract Disorders	1,833	4.3
Acute Pharyngitis	13,478	4.3	Allergic Rhinitis	1,773	4.1
Acute Bronchitis/Bronchiolitis	13,293	4.2	Back Disorder	1,754	4.1
Caroline County			Carroll County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	2,601	14.2	Essential Hypertension	12,453	12.2
Acute Upper Respiratory Infection Multiple Sites	1,599	8.8	Acute Upper Respiratory Infection Multiple Sites	9,375	9.2
Respiratory System/Other Chest Symptoms	1,589	8.7	Acute Sinusitis	8,898	8.7
General Symptoms	1,558	8.5	Acute Pharyngitis	8,325	8.2
Disease of Lipoid Metabolism	1,418	7.8	Respiratory System/Other Chest Symptoms	8,232	8.1
Allergic Rhinitis	1,233	6.8	Disease of Lipoid Metabolism	8,157	8.0
Acute Pharyngitis	1,210	6.6	General Symptoms	8,129	8.0
Acute Bronchitis/Bronchiolitis	1,191	6.5	Acute Bronchitis/Bronchiolitis	6,236	6.1
Diabetes Mellitus	1,156	6.3	Otitis Media, Suppurative	5,940	5.8
Acute Sinusitis	1,087	6.0	Other Abdomen/Pelvis Symptoms	5,333	5.2
Other Abdomen/Pelvis Symptoms	1,019	5.6	Allergic Rhinitis	5,298	5.2
Otitis Media	850	4.7	Other Urinary Tract Disorders	4,613	4.5
Back Disorder	831	4.6	Diabetes Mellitus	4,454	4.4
Joint Disorder	798	4.4	Back Disorder	4,283	4.2
Diseases of the Esophagus	788	4.3	Joint Disorder	4,116	4.0

* Includes all patients with a 1998 MCDB record and the selected diagnosis; † the denominator includes all individuals with a 1998 MCDB record with a corresponding E&M code.

**Table 2.B.3 (continued): Most Frequent Diagnoses among Privately Insured Residents
and Medicare Beneficiaries with an MCDB Record, by County**

Cecil County			Charles County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	6,158	15.5	Essential Hypertension	7,173	11.5
Acute Upper Respiratory Infection Multiple Sites	3,759	9.5	Acute Upper Respiratory Infection Multiple Sites	5,803	9.3
Acute Sinusitis	3,638	9.2	General Symptoms	5,144	8.3
Acute Bronchitis/Bronchiolitis	3,608	9.1	Respiratory System/Other Chest Symptoms	4,897	7.9
Disease of Lipoid Metabolism	3,462	8.7	Disease of Lipoid Metabolism	4,251	6.8
General Symptoms	3,255	8.2	Acute Pharyngitis	4,110	6.6
Chronic Sinusitis	3,223	8.1	Acute Sinusitis	3,728	6.0
Respiratory System/Other Chest Symptoms	3,072	7.7	Acute Bronchitis/Bronchiolitis	3,641	5.8
Acute Pharyngitis	2,596	6.5	Other Abdomen/Pelvis Symptoms	3,591	5.8
Diabetes Mellitus	2,359	5.9	Allergic Rhinitis	3,413	5.5
Allergic Rhinitis	2,301	5.8	Diabetes Mellitus	3,064	4.9
Other Abdomen/Pelvis Symptoms	2,107	5.3	Other Urinary Tract Disorder	2,727	4.4
Nonsuppurative Otitis Media	2,067	5.2	Nonsuppurative Otitis Media	2,726	4.4
Other Urinary Tract Disorder	1,942	4.9	Otitis Media, Suppurative	2,636	4.2
Asthma	1,876	4.7	Back Disorder	2,383	3.8
Dorchester County			Frederick County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	4,183	21.6	Essential Hypertension	12,140	10.1
Disease of Lipoid Metabolism	1,986	10.3	Respiratory System/Other Chest Symptoms	9,943	8.3
General Symptoms	1,610	8.3	Acute Pharyngitis	9,650	8.0
Respiratory System/Other Chest Symptoms	1,594	8.2	Acute Upper Respiratory Infection Multiple Sites	8,992	7.5
Acute Upper Respiratory Infection Multiple Sites	1,519	7.9	General Symptoms	8,631	7.2
Diabetes Mellitus	1,502	7.8	Acute Sinusitis	7,947	6.6
Acute Bronchitis/Bronchiolitis	1,242	6.4	Disease of Lipoid Metabolism	7,872	6.6
Allergic Rhinitis	1,223	6.3	Other Abdomen/Pelvis Symptoms	6,493	5.4
Other Abdomen/Pelvis Symptoms	1,150	5.9	Acute Bronchitis/Bronchiolitis	5,541	4.6
Hypertensive Heart Disease	1,118	5.8	Other Urinary Tract Disorders	5,418	4.5
Acute Sinusitis	1,062	5.5	Otitis Media, Suppurative	5,410	4.5
Other Chronic Ischemic Heart Disease	1,043	5.4	Diabetes Mellitus	4,955	4.1
Gastrointestinal System Symptoms	969	5.0	Allergic Rhinitis	4,949	4.1
Acute Pharyngitis	912	4.7	Back Disorder	4,751	4.0
Back Disorder	905	4.7	Contact Dermatitis	4,410	3.7

* Includes all patients with a 1998 MCDB record and the selected diagnosis; † the denominator includes all individuals with a 1998 MCDB record with a corresponding E&M code.

**Table 2.B.3 (continued): Most Frequent Diagnoses among Privately Insured Residents
and Medicare Beneficiaries with an MCDB Record, by County**

Garrett County			Harford County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	2,289	16.9	Essential Hypertension	16,004	12.6
Other Abdomen/Pelvis Symptoms	1,396	10.3	Acute Upper Respiratory Infection Multiple Sites	11,832	9.3
Acute Sinusitis	1,316	9.7	Respiratory System/Other Chest Symptoms	11,056	8.7
General Symptoms	1,314	9.7	General Symptoms	10,994	8.7
Disease of Lipoid Metabolism	1,189	8.8	Disease of Lipoid Metabolism	10,010	7.9
Acute Bronchitis/Bronchiolitis	1,187	8.8	Acute Sinusitis	9,298	7.3
Respiratory System/Other Chest Symptoms	1,096	8.1	Acute Pharyngitis	8,809	7.0
Diabetes Mellitus	1,079	8.0	Otitis Media, Suppurative	7,634	6.0
Acute Pharyngitis	1,074	8.0	Acute Bronchitis/Bronchiolitis	7,524	5.9
Acute Upper Respiratory Infection Multiple Sites	979	7.2	Other Abdomen/Pelvis Symptoms	6,853	5.4
Other Chronic Ischemic Heart Disease	849	6.3	Allergic Rhinitis	6,833	5.4
Joint Disorder	817	6.0	Joint Disorder	6,504	5.1
Osteoarthritis	780	5.8	Back Disorder	6,291	5.0
Back Disorder	731	5.4	Diabetes Mellitus	5,687	4.5
Otitis Media, Suppurative	721	5.3	Other Chronic Ischemic Heart Disease	5,130	4.1
Howard County			Kent County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	13,969	9.8	Essential Hypertension	3,089	21.4
Acute Upper Respiratory Infection Multiple Sites	12,091	8.5	Disease of Lipoid Metabolism	2,292	15.9
General Symptoms	11,664	8.2	Acute Upper Respiratory Infection Multiple Sites	1,343	9.3
Respiratory System/Other Chest Symptoms	11,619	8.1	General Symptoms	1,334	9.2
Acute Pharyngitis	11,177	7.8	Respiratory System/Other Chest Symptoms	1,213	8.4
Disease of Lipoid Metabolism	10,084	7.1	Acute Bronchitis/Bronchiolitis	1,121	7.8
Acute Sinusitis	8,474	5.9	Diabetes Mellitus	1,053	7.3
Allergic Rhinitis	8,440	5.9	Acute Pharyngitis	1,047	7.2
Joint Disorder	7,896	5.5	Back Disorder	856	5.9
Other Abdomen/Pelvis Symptoms	7,378	5.2	Other Abdomen/Pelvis Symptoms	793	5.5
Acute Bronchitis/Bronchiolitis	6,246	4.4	Osteoarthritis	773	5.4
Back Disorder	6,203	4.3	Otitis Media, Suppurative	756	5.2
Contact Dermatitis	5,774	4.0	Other Urinary Tract Disorders	738	5.1
Otitis Media, Suppurative	5,759	4.0	Joint Disorder	706	4.9
Other Soft Tissue Disorders	5,636	4.0	Allergic Rhinitis	700	4.8

* Includes all patients with a 1998 MCDB record and the selected diagnosis; † the denominator includes all individuals with a 1998 MCDB record with a corresponding E&M code.

**Table 2.B.3 (continued): Most Frequent Diagnoses among Privately Insured Residents
and Medicare Beneficiaries with an MCDB Record, by County**

Montgomery County			Prince George's County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	51,700	10.3	Essential Hypertension	43,740	11.6
General Symptoms	46,622	9.3	Respiratory System/Other Chest Symptoms	28,598	7.6
Respiratory System/Other Chest Symptoms	43,295	8.7	General Symptoms	26,529	7.1
Disease of Lipoid Metabolism	43,031	8.6	Disease of Lipoid Metabolism	24,273	6.5
Acute Pharyngitis	36,386	7.3	Diabetes Mellitus	19,985	5.3
Other Abdomen/Pelvis Symptoms	27,974	5.6	Other Abdomen/Pelvis Symptoms	19,325	5.1
Acute Upper Respiratory Infection Multiple Sites	27,671	5.5	Acute Upper Respiratory Infection Multiple Sites	17,442	4.6
Joint Disorder	24,958	5.0	Acute Pharyngitis	14,777	3.9
Allergic Rhinitis	23,561	4.7	Allergic Rhinitis	14,628	3.9
Contact Dermatitis	21,279	4.3	Other Urinary Tract Disorders	14,568	3.9
Acute Sinusitis	20,698	4.1	Joint Disorder	14,139	3.8
Back Disorder	20,387	4.1	Other Female Genital Inflammatory Disease	13,655	3.6
Other Urinary Tract Disorders	19,962	4.0	Acute Bronchitis/Bronchiolitis	12,825	3.4
Acute Bronchitis/Bronchiolitis	19,770	4.0	Back Disorder	12,565	3.3
Otitis Media, Suppurative	19,060	3.8	Contact Dermatitis	12,347	3.3
Queen Anne's County			Somerset County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	3,060	12.6	Essential Hypertension	2,510	22.1
General Symptoms	2,067	8.5	Respiratory System/Other Chest Symptoms	1,092	9.6
Acute Upper Respiratory Infection Multiple Sites	1,995	8.2	Disease of Lipoid Metabolism	1,031	9.1
Disease of Lipoid Metabolism	1,955	8.1	Diabetes Mellitus	1,025	9.0
Respiratory System/Other Chest Symptoms	1,929	7.9	General Symptoms	995	8.8
Acute Pharyngitis	1,853	7.6	Acute Upper Respiratory Infection Multiple Sites	895	7.9
Acute Sinusitis	1,750	7.2	Other Chronic Ischemic Heart Disease	661	5.8
Acute Bronchitis/Bronchiolitis	1,640	6.8	Other Abdomen/Pelvis Symptoms	641	5.6
Other Abdomen/Pelvis Symptoms	1,363	5.6	Back Disorder	564	5.0
Back Disorder	1,268	5.2	Other Urinary Tract Disorders	548	4.8
Diabetes Mellitus	1,246	5.1	Heart Failure	525	4.6
Otitis Media, Suppurative	1,181	4.9	Cardiac Dysrhythmias	524	4.6
Allergic Rhinitis	1,152	4.7	Osteoarthritis	509	4.5
Other Urinary Tract Disorders	1,060	4.4	Angina Pectoris	493	4.3
Osteoarthritis	1,018	4.2	Joint Disorder	490	4.3

* Includes all patients with a 1998 MCDB record and the selected diagnosis; † the denominator includes all individuals with a 1998 MCDB record with a corresponding E&M code.

**Table 2.B.3 (continued): Most Frequent Diagnoses among Privately Insured Residents
and Medicare Beneficiaries with an MCDB Record, by County**

St. Mary's County			Talbot County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	5,924	13.0	Essential Hypertension	4,030	16.9
Acute Upper Respiratory Infection Multiple Sites	5,705	12.5	General Symptoms	2,328	9.8
General Symptoms	4,630	10.2	Disease of Lipoid Metabolism	2,206	9.3
Respiratory System/Other Chest Symptoms	4,477	9.8	Respiratory System/Other Chest Symptoms	2,114	8.9
Disease of Lipoid Metabolism	4,217	9.3	Allergic Rhinitis	1,670	7.0
Acute Bronchitis/Bronchiolitis	3,289	7.2	Acute Pharyngitis	1,602	6.7
Other Abdomen/Pelvis Symptoms	2,862	6.3	Acute Bronchitis/Bronchiolitis	1,524	6.4
Acute Pharyngitis	2,667	5.9	Other Abdomen/Pelvis Symptoms	1,387	5.8
Acute Sinusitis	2,535	5.6	Diabetes Mellitus	1,309	5.5
Diabetes Mellitus	2,531	5.6	Acute Upper Respiratory Infection Multiple Sites	1,295	5.4
Other Urinary Tract Disorders	2,288	5.0	Acute Sinusitis	1,229	5.2
Joint Disorder	2,188	4.8	Back Disorder	1,201	5.0
Nonsuppurative Otitis Media	2,179	4.8	Diseases of the Esophagus	1,132	4.7
Otitis Media, Suppurative	2,102	4.6	Osteoarthritis	1,127	4.7
Allergic Rhinitis	2,058	4.5	Joint Disorder	1,110	4.7
Washington County			Wicomico County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	11,138	15.8	Essential Hypertension	8,262	16.5
Disease of Lipoid Metabolism	6,584	9.3	Disease of Lipoid Metabolism	4,791	9.6
Respiratory System/Other Chest Symptoms	5,518	7.8	Respiratory System/Other Chest Symptoms	4,713	9.4
General Symptoms	5,187	7.3	General Symptoms	4,204	8.4
Diabetes Mellitus	4,704	6.7	Acute Upper Respiratory Infection Multiple Sites	4,035	8.1
Acute Upper Respiratory Infection Multiple Sites	4,005	5.7	Diabetes Mellitus	3,204	6.4
Other Chronic Ischemic Heart Disease	3,833	5.4	Other Abdomen/Pelvis Symptoms	2,742	5.5
Acute Bronchitis/Bronchiolitis	3,700	5.2	Otitis Media, Suppurative	2,515	5.0
Other Abdomen/Pelvis Symptoms	3,649	5.2	Allergic Rhinitis	2,328	4.7
Osteoarthritis	3,626	5.1	Acute Sinusitis	2,273	4.6
Acute Pharyngitis	3,497	5.0	Joint Disorder	2,211	4.4
Acute Sinusitis	3,313	4.7	Back Disorder	2,199	4.4
Back Disorder	3,272	4.6	Acute Pharyngitis	2,157	4.3
Joint Disorder	3,097	4.4	Other Chronic Ischemic Heart Disease	2,049	4.1
Allergic Rhinitis	2,955	4.2	Osteoarthritis	2,011	4.0

* Includes all patients with a 1998 MCDB record and the selected diagnosis; † the denominator includes all individuals with a 1998 MCDB record with a corresponding E&M code.

Table 2.B.3 (continued): Most Frequent Diagnoses among Privately Insured Residents and Medicare Beneficiaries with an MCDB Record, by County

Worcester County		
Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	5,813	19.9
Disease of Lipoid Metabolism	3,312	11.3
Respiratory System/Other Chest Symptoms	2,977	10.2
General Symptoms	2,729	9.3
Acute Upper Respiratory Infection Multiple Sites	2,270	7.8
Diabetes Mellitus	2,144	7.3
Other Chronic Ischemic Heart Disease	1,613	5.5
Other Abdomen/Pelvis Symptoms	1,589	5.4
Acute Sinusitis	1,476	5.1
Acute Pharyngitis	1,463	5.0
Osteoarthritis	1,454	5.0
Back Disorder	1,444	4.9
Allergic Rhinitis	1,423	4.9
Cardiac Dysrhythmias	1,416	4.8
Joint Disorder	1,412	4.8

* Includes all patients with a 1998 MCDB record and the selected diagnosis; † the denominator includes all individuals with a 1998 MCDB record with a corresponding E&M code.

**Table 2.B.4: Most Frequent Diagnoses among Privately Insured Residents
and Medicare Beneficiaries with an MCDB Record, by Age**

Age < 18			Age 18-39		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Acute Pharyngitis	99,715	15.1	Acute Sinusitis	45,601	6.0
Acute Upper Respiratory Infection Multiple Sites	93,523	14.2	Acute Upper Respiratory Infection Multiple Sites	42,543	5.6
Otitis Media, Suppurative	88,179	13.4	General Symptoms	42,353	5.5
Other Viral and Chlamydial Infection, Unspecified Site	45,272	6.9	Acute Pharyngitis	41,914	5.5
Nonsuppurative Otitis Media	42,116	6.4	Other Abdomen/Pelvis Symptoms	41,324	5.4
General Symptoms	34,952	5.3	Respiratory System/Other Chest Symptoms	37,873	5.0
Allergic Rhinitis	34,452	5.2	Allergic Rhinitis	37,602	4.9
Acute Sinusitis	33,380	5.1	Disorder of Menstruation	35,643	4.7
Asthma	30,219	4.6	Sebaceous Gland Disease	33,849	4.4
Strep Throat / Scarlet Fever	30,127	4.6	Other Female Genital Inflammatory Disease	32,472	4.2
Respiratory System/Other Chest Symptoms	28,114	4.3	Back Disorder	29,586	3.9
Contact Dermatitis	27,822	4.2	Acute Bronchitis/Bronchiolitis	28,823	3.8
Acute Bronchitis/Bronchiolitis	25,677	3.9	Joint Disorder	26,613	3.5
Disorders of Conjunctiva	24,271	3.7	Other Urinary Tract Disorder	26,583	3.5
Acute Tonsillitis	19,523	3.0	Contact Dermatitis	24,270	3.2
Age 40-50			Age 51-64		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	51,939	10.3	Essential Hypertension	97,763	21.4
Respiratory System/Other Chest Symptoms	39,998	7.9	Disease of Lipoid Metabolism	64,458	14.1
General Symptoms	35,204	7.0	Respiratory System/Other Chest Symptoms	47,908	10.5
Disease of Lipoid Metabolism	33,231	6.6	Diabetes Mellitus	40,597	8.9
Acute Sinusitis	29,623	5.9	General Symptoms	36,281	8.0
Other Abdomen/Pelvis Symptoms	27,527	5.5	Menopausal Disorders	33,192	7.3
Back Disorder	27,080	5.4	Joint Disorder	27,244	6.0
Joint Disorder	25,220	5.0	Other Abdomen/Pelvis Symptoms	26,619	5.8
Allergic Rhinitis	24,151	4.8	Back Disorder	26,173	5.7
Acute Upper Respiratory Infection Multiple Sites	23,698	4.7	Peripheral Enthesopathies	25,887	5.7
Peripheral Enthesopathies	23,106	4.6	Osteoarthritis	24,018	5.3
Acute Bronchitis/Bronchiolitis	21,381	4.3	Acute Bronchitis/Bronchiolitis	21,445	4.7
Other Disorders of Soft Tissue	20,340	4.0	Acute Sinusitis	21,361	4.7
Disorder of Menstruation	18,901	3.8	Other Disorders of Soft Tissue	21,212	4.7
Diabetes Mellitus	18,339	3.6	Other Chronic Ischemic Heart Disease	20,155	4.4

* Includes all patients in the age group with a 1998 MCDB record and the selected diagnosis; † the denominator includes all individuals in the age group with a 1998 MCDB record with a corresponding E&M code.

Table 2.B.4 (continued): Most Frequent Diagnoses among Privately Insured Residents and Medicare Beneficiaries with an MCDB Record, by Age

Age 65 +		
Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	236,115	44.6
Disease of Lipoid Metabolism	138,260	26.1
General Symptoms	104,656	19.8
Respiratory System/Other Chest Symptoms	104,621	19.8
Other Chronic Ischemic Heart Disease	87,309	16.5
Diabetes Mellitus	86,766	16.4
Osteoarthritis	83,002	15.7
Cardiac Dysrhythmias	74,565	14.1
Cataract	55,441	10.5
Joint Disorder	55,170	10.4
Heart Failure	52,650	9.9
Other Urinary Tract Disorder	51,847	9.8
Hyperplasia of Prostate	50,152	9.5
Other Abdomen/Pelvis Symptoms	49,030	9.3
Back Disorder	44,173	8.3

* Includes all patients in the age group with a 1998 MCDB record and the selected diagnosis; † the denominator includes all individuals in the age group with a 1998 MCDB record with a corresponding E&M code.

Table 2.B.5: Most Frequent Emergency Room Diagnoses among Privately Insured Residents and Medicare Beneficiaries with an MCDB Record, by County

All Maryland			Allegany County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	77,697	27.8	Respiratory System/Other Chest Symptoms	2,360	35.2
General Symptoms	46,755	16.8	General Symptoms	736	11.0
Other Abdomen/Pelvis Symptoms	31,485	11.3	Joint Disorder	730	10.9
Other or Unspecified Injury	26,224	9.4	Other Abdomen/Pelvis Symptoms	724	10.8
Gastrointestinal System Symptoms	19,024	6.8	Cardiac Dysrhythmias	610	9.1
Joint Disorder	18,705	6.7	Other or Unspecified Injury	610	9.1
Cardiac Dysrhythmias	16,657	6.0	Other Urinary Tract Disorders	393	5.9
Other Lung Diseases	15,029	5.4	Other Cerebrovascular Disease	378	5.6
Disorders of Fluid, Electrolyte, and Acid-Base Balance	14,641	5.3	Heart Failure	359	5.4
Symptoms Involving Head and Neck	14,321	5.1	Acute Bronchitis/Bronchiolitis	322	4.8
Heart Failure	13,384	4.8	Disorders of Fluid, Electrolyte, and Acid-Base Balance	317	4.7
Essential Hypertension	13,041	4.7	Chronic Airway Obstruction	299	4.5
Other Soft Tissue Disorders	12,575	4.5	Pneumonia, Organism Unspecified	263	3.9
Other Urinary Tract Disorders	12,264	4.4	Other Lung Diseases	261	3.9
Pneumonia, Organism Unspecified	11,675	4.2	Back Disorder	255	3.8
Anne Arundel County			Baltimore County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	7,840	35.9	Respiratory System/Other Chest Symptoms	11,160	29.0
General Symptoms	4,522	20.7	General Symptoms	7,129	18.5
Other Abdomen/Pelvis Symptoms	2,941	13.5	Other or Unspecified Injury	4,761	12.4
Gastrointestinal System Symptoms	2,176	10.0	Other Abdomen/Pelvis Symptoms	4,321	11.2
Other or Unspecified Injury	2,158	9.9	Cardiac Dysrhythmias	2,856	7.4
Joint Disorder	1,953	8.9	Other Lung Diseases	2,779	7.2
Other Soft Tissue Disorders	1,410	6.5	Joint Disorder	2,642	6.9
Symptoms Involving Head and Neck	1,395	6.4	Ill-Defined Heart Disease	2,518	6.5
Ill-Defined Heart Disease	1,388	6.4	Gastrointestinal System Symptoms	2,404	6.2
Other Lung Diseases	1,321	6.1	Heart Failure	2,206	5.7
Cardiac Dysrhythmias	1,243	5.7	Disorders of Fluid, Electrolyte, and Acid-Base Balance	2,049	5.3
Disorders of Fluid, Electrolyte, and Acid-Base Balance	1,059	4.9	Symptoms Involving Head and Neck	1,923	5.0
Heart Failure	1,053	4.8	Other Soft Tissue Disorders	1,861	4.8
Back Disorder	1,000	4.6	Pneumonia, Organism Unspecified	1,768	4.6
Chronic Airway Obstruction	931	4.3	Other Urinary Tract Disorders	1,725	4.5

* Includes all patients with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all individuals with a 1998 MCDB record corresponding to an emergency room visit.

Table 2.B.5 (continued): Most Frequent Emergency Room Diagnoses among Privately Insured Residents and Medicare Beneficiaries with an MCDB Record, by County

Baltimore City			Calvert County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	12,518	30.5	Respiratory System/Other Chest Symptoms	749	24.0
General Symptoms	7,113	17.4	General Symptoms	518	16.6
Other Abdomen/Pelvis Symptoms	4,498	11.0	Other Abdomen/Pelvis Symptoms	366	11.7
Other or Unspecified Injury	4,466	10.9	Other or Unspecified Injury	334	10.7
Cardiac Dysrhythmias	4,204	10.3	Chronic Airway Obstruction	231	7.4
Other Lung Diseases	3,729	9.1	Gastrointestinal System Symptoms	225	7.2
Joint Disorder	2,811	6.9	Essential Hypertension	219	7.0
Disorders of Fluid, Electrolyte, and Acid-Base Balance	2,778	6.8	Diabetes Mellitus	212	6.8
Heart Failure	2,701	6.6	Cardiac Dysrhythmias	188	6.0
Ill-Defined Heart Disease	2,623	6.4	Other Urinary Tract Disorders	164	5.3
Essential Hypertension	2,586	6.3	Heart Failure	155	5.0
Other Soft Tissue Disorders	2,307	5.6	Symptoms Involving Head and Neck	150	4.8
Pneumonia, Organism Unspecified	2,300	5.6	Disorders of Fluid, Electrolyte, and Acid-Base Balance	142	4.6
Gastrointestinal System Symptoms	2,267	5.5	Joint Disorder	137	4.4
Other Urinary Tract Disorders	2,234	5.5	Other Soft Tissue Disorders	137	4.4
Caroline County			Carroll County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	517	32.3	Respiratory System/Other Chest Symptoms	2,048	27.5
General Symptoms	363	22.7	General Symptoms	1,398	18.8
Other Abdomen/Pelvis Symptoms	213	13.3	Other Abdomen/Pelvis Symptoms	847	11.4
Chronic Pulmonary Heart Disease	184	11.5	Other or Unspecified Injury	577	7.8
Other or Unspecified Injury	166	10.4	Other Lung Diseases	547	7.4
Cardiac Dysrhythmias	126	7.9	Gastrointestinal System Symptoms	530	7.1
Other Soft Tissue Disorders	122	7.6	Cardiac Dysrhythmias	446	6.0
Heart Failure	119	7.4	Other Urinary Tract Disorders	440	5.9
Joint Disorder	108	6.8	Disorders of Fluid, Electrolyte, and Acid-Base Balance	422	5.7
Gastrointestinal System Symptoms	92	5.8	Heart Failure	414	5.6
Other Lung Diseases	91	5.7	Joint Disorder	411	5.5
Disorders of Fluid, Electrolyte, and Acid-Base Balance	89	5.6	Pneumonia, Organism Unspecified	385	5.2
Symptoms Involving Head and Neck	88	5.5	Chronic Airway Obstruction	354	4.8
Pneumonia, Organism Unspecified	86	5.4	Other Open Wound of Head	342	4.6
Other Urinary Tract Disorders	85	5.3	Essential Hypertension	340	4.6

* Includes all patients with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all individuals with a 1998 MCDB record corresponding to an emergency room visit.

Table 2.B.5 (continued): Most Frequent Emergency Room Diagnoses among Privately Insured Residents and Medicare Beneficiaries with an MCDB Record, by County

Cecil County			Charles County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	1,153	29.2	Respiratory System/Other Chest Symptoms	1,233	24.8
General Symptoms	677	17.2	General Symptoms	838	16.9
Other Abdomen/Pelvis Symptoms	495	12.6	Other or Unspecified Injury	636	12.8
Other or Unspecified Injury	464	11.8	Other Abdomen/Pelvis Symptoms	539	10.8
Gastrointestinal System Symptoms	330	8.4	Gastrointestinal System Symptoms	344	6.9
Joint Disorder	228	5.8	Disorders of Fluid, Electrolyte, and Acid-Base Balance	272	5.5
Pneumonia, Organism Unspecified	214	5.4	Ill-Defined Heart Disease	269	5.4
Symptoms Involving Head and Neck	207	5.3	Heart Failure	247	5.0
Chronic Airway Obstruction	185	4.7	Symptoms Involving Head and Neck	247	5.0
Heart Failure	183	4.6	Other Lung Diseases	239	4.8
Other Soft Tissue Disorders	176	4.5	Chronic Airway Obstruction	231	4.7
Cardiac Dysrhythmias	175	4.4	Other Urinary Tract Disorders	226	4.6
Other Urinary Tract Disorders	175	4.4	Diabetes Mellitus	203	4.1
Disorders of Fluid, Electrolyte, and Acid-Base Balance	173	4.4	Essential Hypertension	202	4.1
Back Disorder	165	4.2	Back Disorder	197	4.0
Dorchester County			Frederick County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	492	25.5	Respiratory System/Other Chest Symptoms	2,933	25.1
General Symptoms	237	12.3	General Symptoms	1,959	16.8
Other or Unspecified Injury	223	11.6	Other Abdomen/Pelvis Symptoms	1,549	13.3
Other Abdomen/Pelvis Symptoms	198	10.3	Joint Disorder	1,241	10.6
Cardiac Dysrhythmias	157	8.1	Gastrointestinal System Symptoms	1,224	10.5
Other Urinary Tract Disorders	153	7.9	Symptoms Involving Head and Neck	734	6.3
Disorders of Fluid, Electrolyte, and Acid-Base Balance	130	6.7	Other Lung Diseases	626	5.4
Essential Hypertension	127	6.6	Other Open Wound of Head	599	5.1
Heart Failure	127	6.6	Back Disorder	439	3.8
Diabetes Mellitus	104	5.4	Disorders of Fluid, Electrolyte, and Acid-Base Balance	418	3.6
Joint Disorder	92	4.8	Ill-Defined Heart Disease	392	3.4
Pneumonia, Organism Unspecified	85	4.4	Other Urinary Tract Disorders	385	3.3
Symptoms Involving Head and Neck	76	3.9	Skin/Other Integument Symptoms	385	3.3
Gastrointestinal System Symptoms	75	3.9	Heart Failure	380	3.3
Hypertensive Heart Disease	65	3.4	Contusion of the Leg and Other Unspecified Sites	371	3.2

* Includes all patients with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all individuals with a 1998 MCDB record corresponding to an emergency room visit.

Table 2.B.5 (continued): Most Frequent Emergency Room Diagnoses among Privately Insured Residents and Medicare Beneficiaries with an MCDB Record, by County

Garrett County			Harford County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	518	25.8	Respiratory System/Other Chest Symptoms	3,030	37.0
Other or Unspecified Injury	306	15.2	General Symptoms	2,122	25.9
General Symptoms	274	13.7	Other or Unspecified Injury	1,292	15.8
Other Abdomen/Pelvis Symptoms	235	11.7	Other Abdomen/Pelvis Symptoms	1,184	14.5
Joint Disorder	146	7.3	Gastrointestinal System Symptoms	1,022	12.5
Pneumonia, Organism Unspecified	115	5.7	Joint Disorder	854	10.4
Heart Failure	114	5.7	Other Soft Tissue Disorders	771	9.4
Cardiac Dysrhythmias	103	5.1	Symptoms Involving Head and Neck	724	8.8
Other Urinary Tract Disorders	96	4.8	Cardiac Dysrhythmias	651	8.0
Angina Pectoris	94	4.7	Heart Failure	607	7.4
Contusion of the Leg and Other Unspecified Sites	90	4.5	Back Disorder	584	7.1
Acute Bronchitis/Bronchiolitis	87	4.3	Pneumonia, Organism Unspecified	495	6.0
Gastrointestinal System Symptoms	86	4.3	Other Lung Diseases	485	5.9
Disorders of Fluid, Electrolyte, and Acid-Base Balance	83	4.1	Disorders of Fluid, Electrolyte, and Acid-Base Balance	423	5.2
Chronic Airway Obstruction	83	4.1	Skin/Other Integument Symptoms	385	4.7
Howard County			Kent County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	2,176	26.8	Respiratory System/Other Chest Symptoms	406	31.7
General Symptoms	1,551	19.1	General Symptoms	198	15.4
Other or Unspecified Injury	1,397	17.2	Other or Unspecified Injury	172	13.4
Other Abdomen/Pelvis Symptoms	1,028	12.7	Other Abdomen/Pelvis Symptoms	162	12.6
Joint Disorder	934	11.5	Essential Hypertension	135	10.5
Gastrointestinal System Symptoms	891	11.0	Cardiac Dysrhythmias	118	9.2
Other Soft Tissue Disorders	731	9.0	Disorders of Fluid, Electrolyte, and Acid-Base Balance	113	8.8
Symptoms Involving Head and Neck	630	7.8	Other Lung Diseases	113	8.8
Other Open Wound of Head	444	5.5	Ill-Defined Heart Disease	108	8.4
Back Disorder	382	4.7	Heart Failure	107	8.4
Cardiac Dysrhythmias	376	4.6	Diabetes Mellitus	89	6.9
Other Lung Diseases	371	4.6	Chronic Airway Obstruction	89	6.9
Skin/Other Integument Symptoms	325	4.0	Other Urinary Tract Disorders	70	5.5
Essential Hypertension	300	3.7	Pneumonia, Organism Unspecified	68	5.3
Disorders of Fluid, Electrolyte, and Acid-Base Balance	289	3.6	Chronic Bronchitis	66	5.2

* Includes all patients with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all individuals with a 1998 MCDB record corresponding to an emergency room visit.

Table 2.B.5 (continued): Most Frequent Emergency Room Diagnoses among Privately Insured Residents and Medicare Beneficiaries with an MCDB Record, by County

Montgomery County			Prince George's County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	12,269	23.7	Respiratory System/Other Chest Symptoms	9,397	22.9
General Symptoms	7,156	13.8	General Symptoms	6,091	14.9
Other Abdomen/Pelvis Symptoms	5,228	10.1	Other Abdomen/Pelvis Symptoms	4,110	10.0
Other or Unspecified Injury	3,365	6.5	Other or Unspecified Injury	3,009	7.3
Gastrointestinal System Symptoms	3,168	6.1	Gastrointestinal System Symptoms	2,441	6.0
Other Open Wound of Head	2,663	5.2	Joint Disorder	2,391	5.8
Joint Disorder	2,525	4.9	Symptoms Involving Head and Neck	2,269	5.5
Disorders of Fluid, Electrolyte, and Acid-Base Balance	2,443	4.7	Essential Hypertension	2,139	5.2
Symptoms Involving Head and Neck	2,026	3.9	Disorders of Fluid, Electrolyte, and Acid-Base Balance	2,085	5.1
Cardiac Dysrhythmias	2,004	3.9	Other Soft Tissue Disorders	1,823	4.5
Other Urinary Tract Disorders	1,861	3.6	Other Urinary Tract Disorders	1,651	4.0
Other Lung Diseases	1,735	3.4	Back Disorder	1,523	3.7
Pneumonia, Organism Unspecified	1,601	3.1	Heart Failure	1,468	3.6
Back Disorder	1,548	3.0	Diabetes Mellitus	1,438	3.5
Essential Hypertension	1,538	3.0	Cardiac Dysrhythmias	1,318	3.2
Queen Anne's County			Somerset County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	641	36.2	Respiratory System/Other Chest Symptoms	468	30.1
General Symptoms	341	19.3	General Symptoms	270	17.4
Other Abdomen/Pelvis Symptoms	222	12.6	Other Abdomen/Pelvis Symptoms	216	13.9
Cardiac Dysrhythmias	159	9.0	Essential Hypertension	210	13.5
Other or Unspecified Injury	146	8.3	Heart Failure	162	10.4
Heart Failure	127	7.2	Diabetes Mellitus	148	9.5
Chronic Pulmonary Heart Disease	126	7.1	Other Lung Diseases	144	9.3
Joint Disorder	108	6.1	Disorders of Fluid, Electrolyte, and Acid-Base Balance	137	8.8
Gastrointestinal System Symptoms	104	5.9	Ill-Defined Heart Disease	134	8.6
Other Lung Diseases	101	5.7	Gastrointestinal System Symptoms	124	8.0
Disorders of Fluid, Electrolyte, and Acid-Base Balance	97	5.5	Other Urinary Tract Disorders	120	7.7
Other Soft Tissue Disorders	97	5.5	Cardiac Dysrhythmias	112	7.2
Other Urinary Tract Disorders	93	5.3	Chronic Airway Obstruction	112	7.2
Diabetes Mellitus	85	4.8	Pneumonia, Organism Unspecified	110	7.1
Symptoms Involving Head and Neck	84	4.8	Other or Unspecified Injury	102	6.6

* Includes all patients with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all individuals with a 1998 MCDB record corresponding to an emergency room visit.

Table 2.B.5 (continued): Most Frequent Emergency Room Diagnoses among Privately Insured Residents and Medicare Beneficiaries with an MCDB Record, by County

St. Mary's County			Talbot County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	850	26.7	Respiratory System/Other Chest Symptoms	742	32.9
General Symptoms	524	16.4	General Symptoms	556	24.7
Other Abdomen/Pelvis Symptoms	390	12.2	Chronic Pulmonary Heart Disease	345	15.3
Other or Unspecified Injury	357	11.2	Other Abdomen/Pelvis Symptoms	307	13.6
Other Lung Diseases	284	8.9	Cardiac Dysrhythmias	225	10.0
Essential Hypertension	269	8.4	Other or Unspecified Injury	211	9.4
Diabetes Mellitus	246	7.7	Other Soft Tissue Disorders	178	7.9
Ill-Defined Heart Disease	245	7.7	Heart Failure	174	7.7
Gastrointestinal System Symptoms	234	7.3	Gastrointestinal System Symptoms	162	7.2
Chronic Airway Obstruction	219	6.9	Symptoms Involving Head and Neck	128	5.7
Heart Failure	213	6.7	Angina Pectoris	125	5.5
Other Urinary Tract Disorders	212	6.7	Joint Disorder	113	5.0
Joint Disorder	198	6.2	Other Urinary Tract Disorders	110	4.9
Disorders of Fluid, Electrolyte, and Acid-Base Balance	180	5.6	Pneumonia, Organism Unspecified	105	4.7
Cardiac Dysrhythmias	176	5.5	Disorders of Fluid, Electrolyte, and Acid-Base Balance	103	4.6
Washington County			Wicomico County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	1,928	24.8	Respiratory System/Other Chest Symptoms	1,447	32.0
General Symptoms	851	10.9	General Symptoms	852	18.8
Other Abdomen/Pelvis Symptoms	770	9.9	Other Abdomen/Pelvis Symptoms	585	12.9
Essential Hypertension	764	9.8	Other or Unspecified Injury	576	12.7
Joint Disorder	505	6.5	Gastrointestinal System Symptoms	327	7.2
Cardiac Dysrhythmias	459	5.9	Pneumonia, Organism Unspecified	309	6.8
Disorders of Fluid, Electrolyte, and Acid-Base Balance	361	4.6	Essential Hypertension	289	6.4
Gastrointestinal System Symptoms	348	4.5	Heart Failure	283	6.3
Diabetes Mellitus	347	4.5	Disorders of Fluid, Electrolyte, and Acid-Base Balance	281	6.2
Heart Failure	337	4.3	Diabetes Mellitus	276	6.1
Pneumonia, Organism Unspecified	337	4.3	Cardiac Dysrhythmias	250	5.5
Other Urinary Tract Disorders	313	4.0	Symptoms Involving Head and Neck	238	5.3
Other Open Wound of Head	282	3.6	Other Urinary Tract Disorders	204	4.5
Back Disorder	277	3.6	Other Lung Diseases	200	4.4
Symptoms Involving Head and Neck	273	3.5	Chronic Airway Obstruction	196	4.3

* Includes all patients with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all individuals with a 1998 MCDB record corresponding to an emergency room visit.

Table 2.B.5 (continued): Most Frequent Emergency Room Diagnoses among Privately Insured Residents and Medicare Beneficiaries with an MCDB Record, by County

Worcester County		
Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	799	27.9
General Symptoms	465	16.2
Other Abdomen/Pelvis Symptoms	349	12.2
Other or Unspecified Injury	336	11.7
Essential Hypertension	212	7.4
Disorders of Fluid, Electrolyte, and Acid-Base Balance	193	6.7
Cardiac Dysrhythmias	190	6.6
Heart Failure	190	6.6
Gastrointestinal System Symptoms	175	6.1
Pneumonia, Organism Unspecified	159	5.6
Diabetes Mellitus	158	5.5
Other Lung Diseases	151	5.3
Other Soft Tissue Disorders	138	4.8
Symptoms Involving Head and Neck	136	4.8
Other Urinary Tract Disorders	132	4.6

* Includes all patients with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all individuals with a 1998 MCDB record corresponding to an emergency room visit.

Table 2.B.6: Most Frequent Emergency Room Diagnoses among Privately Insured Residents and Medicare Beneficiaries with an MCDB Record, by Age

Age < 18			Age 18-39		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Other or Unspecified Injury	4,759	12.9	Respiratory System/Other Chest Symptoms	8,009	15.7
General Symptoms	4,556	12.3	Other Abdomen/Pelvis Symptoms	6,780	13.3
Other Open Wound of Head	3,784	10.2	Other or Unspecified Injury	5,137	10.1
Respiratory System/Other Chest Symptoms	3,220	8.7	General Symptoms	4,484	8.8
Otitis Media, Suppurative	2,089	5.6	Gastrointestinal System Symptoms	3,043	6.0
Other Abdomen/Pelvis Symptoms	1,955	5.3	Joint Disorder	2,931	5.8
Gastrointestinal System Symptoms	1,912	5.2	Symptoms Involving the Head and Neck	2,720	5.3
Asthma	1,853	5.0	Back Disorder	2,135	4.2
Joint Disorder	1,752	4.7	Other Soft Tissue Disorders	1,943	3.8
Radius/Ulna Fracture	1,382	3.7	Sprain of Back	1,928	3.8
Contusion of the Face, Scalp, and Neck (Except Eye)	1,235	3.3	Sprain of Ankle/Foot	1,847	3.6
Acute Upper Respiratory Infection, Multiple Sites	1,196	3.2	Other Open Wound of Head	1,543	3.0
Symptoms Involving the Head and Neck	1,152	3.1	Open Wound of Finger	1,465	2.9
Sprain of Ankle/Foot	1,100	3.0	Other Urinary Tract Disorder	1,459	2.9
Contusion of Upper Limb	1,065	2.9	Asthma	1,417	2.8
Age 40-50			Age 51-64		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	7,504	25.4	Respiratory System/Other Chest Symptoms	9,280	32.7
Other Abdomen/Pelvis Symptoms	3,716	12.6	General Symptoms	4,032	14.2
General Symptoms	3,241	11.0	Other Abdomen/Pelvis Symptoms	3,480	12.3
Other or Unspecified Injury	2,583	8.8	Other or Unspecified Injury	2,007	7.1
Gastrointestinal System Symptoms	1,853	6.3	Gastrointestinal System Symptoms	1,869	6.6
Joint Disorder	1,852	6.3	Joint Disorder	1,787	6.3
Symptoms Involving the Head and Neck	1,659	5.6	Essential Hypertension	1,730	6.1
Other Soft Tissue Disorders	1,515	5.1	Symptoms Involving the Head and Neck	1,526	5.4
Back Disorder	1,497	5.1	Other Lung Diseases	1,506	5.3
Essential Hypertension	1,068	3.6	Cardiac Dysrhythmias	1,475	5.2
Sprain of Back	924	3.1	Other Soft Tissue Disorders	1,413	5.0
Other Lung Diseases	912	3.1	Diabetes Mellitus	1,346	4.8
Open Wound of Finger	792	2.7	Back Disorder	1,238	4.4
Disorders of Fluid, Electrolyte, and Acid-Base Balance	779	2.6	Disorders of Fluid, Electrolyte, and Acid-Base Balance	1,131	4.0
Asthma	777	2.6	Heart Failure	1,124	4.0

* Includes all patients in the age group with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all individuals in the age group with a 1998 MCDB record corresponding to an emergency room visit.

Table 2.B.6 (continued): Most Frequent Emergency Room Diagnoses among Privately Insured Residents and Medicare Beneficiaries with an MCDB Record, by Age

Age 65 +		
Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	49,684	37.3
General Symptoms	30,441	22.8
Other Abdomen/Pelvis Symptoms	15,554	11.7
Cardiac Dysrhythmias	13,717	10.3
Heart Failure	11,787	8.8
Other or Unspecified Injury	11,738	8.8
Other Lung Diseases	11,249	8.4
Disorders of Fluid, Electrolyte, and Acid-Base Balance	10,970	8.2
Joint Disorder	10,383	7.8
Gastrointestinal System Symptoms	10,347	7.8
Essential Hypertension	9,648	7.2
Ill-Defined Heart Disease	8,969	6.7
Pneumonia, Organism Unspecified	8,712	6.5
Other Urinary Tract Disorder	8,681	6.5
Symptoms Involving the Head and Neck	7,264	5.5

* Includes all patients in the age group with a 1998 MCDB record and the selected emergency room diagnosis; † The denominator includes all individuals in the age group with a 1998 MCDB record corresponding to an emergency room visit.

C. Receipt of Preventive Services among Privately Insured and Medicare Beneficiaries Residing in the State

Organization of Tables

Rates of receipt of selected clinical preventive services – mammograms, Pap smears, influenza vaccines, and pneumonia vaccines - were estimated for health care recipients in the MCDB who are privately insured or Medicare recipients.

County-specific mammography rates among state women over the age of 18 years are presented in Table 2.C.1. Table 2.C.2 presents mammography rates ranked from the county with the highest rate to the county with the lowest rate. Mammography rates for separate age groups are presented in Table 2.C.3.

Table 2.C.4 provides county-specific Pap Smear rates for women over the age of 18. County rankings of Pap Smear rates are listed in Table 2.C.5. Table 2.C.6 provides a breakdown of Pap smear rates by age group.

Rates of receipt of influenza and pneumonia vaccines were computed for all individuals with an MCDB record. County-specific rates of receipt of influenza and pneumonia vaccines are reported in Tables 2.C.7 and 2.C.10 respectively. County rankings for influenza vaccination rates are presented in Tables 2.C.8 and rankings for pneumonia vaccination rates are listed in Table 2.C.11. Influenza and pneumonia vaccination rates by county and age group are presented in Tables 2.C.9 and 2.C.12.

Approach for Estimating Preventive Service Rates and Caveats of Approach

The approach for determining whether mammograms, Pap smears, influenza vaccines or pneumonia vaccines were received is discussed in the Appendix. Of particular relevance for these health statistics, estimates of the count of individuals who received these preventive services may underestimate the actual number, in part because high deductible or basic health plans may not cover these services. In addition, vaccinations, particularly influenza vaccines, are frequently obtained in non-health care settings (e.g., community centers, health fairs) and are therefore not reported in the MCDB.

The total number of residents who are privately insured, or the denominator in calculations of these four sets of service use rates, was not known because several payers failed to provide county-specific enrollment figures. The size of the population base was therefore estimated using two proxies: (1) county population estimates reported by the U.S. Census Bureau and (2) the total number of persons with an MCDB record.

On the one hand, since the MCDB is known to be missing all services for some Maryland residents (see Table 1.1 in the introduction), estimates computed with census figures in the denominator are likely to understate actual rates of use. On the other hand, estimates computed using only individuals represented in the MCDB in the denominator are likely to overstate actual

rates since insured residents who did not seek medical care are excluded from the denominator. However, to the extent that the services under consideration have been omitted from the MCDB (for the reasons previously discussed), rates of receipt of preventive services computed with individuals represented in the MCDB as the denominator could approximate or possibly understate the actual rates of receipt of these services.

Health statistics are reported with both estimates of the population base for purposes of comparison.

Table 2.C.1: Percent of Women Aged 18 and Over with Private Insurance or Medicare who Received a Mammogram, by County, Estimates from the 1998 Maryland MCDB

County	Number of Women Receiving Mammogram*	Mammogram Rate	
		Percent of women in MCDB†	Percent of women in County‡
Allegany	6,599	31.6	22.3
Anne Arundel	28,173	21.1	15.8
Baltimore	52,757	24.4	17.7
Baltimore City	35,311	21.4	13.4
Calvert	3,933	20.5	15.2
Caroline	1,598	19.3	14.4
Carroll	10,284	22.6	18.5
Cecil	3,676	20.6	12.4
Charles	5,143	17.6	12.3
Dorchester	2,023	22.0	16.8
Frederick	10,486	18.5	15.1
Garrett	1,889	30.4	17.3
Harford	13,006	23.0	16.4
Howard	11,553	17.6	13.1
Kent	1,642	23.8	21.1
Montgomery	50,451	20.7	14.9
Prince George's	33,914	17.3	11.0
Queen Anne's	2,231	20.6	14.8
Somerset	1,273	22.7	14.6
St. Mary's	4,731	23.1	15.6
Talbot	2,539	22.6	18.4
Washington	9,281	27.4	19.3
Wicomico	5,520	23.4	17.6
Worcester	3,593	25.4	20.6
All Maryland	301,606	21.3	15.0

* Includes women over the age of 18 with a 1998 MCDB record who received at least one mammogram; † the denominator includes all women over the age of 18 with an MCDB record; ‡ the denominator includes the population of women over the age of 18 in the county. Refer to the Appendix for further details on how the statistic was constructed.

Table 2.C.2: Percent of Women Aged 18 and Over with Private Insurance or Medicare who Received a Mammogram, Highest to Lowest by County, Estimates from the 1998 Maryland MCDB

County	Rank	Number of Women Receiving Mammogram*	<u>Mammogram Rate</u>	
			Percent of women in MCDB†	Percent of women in County‡
Allegany	1	6,599	31.6	22.3
Garrett	2	1,889	30.4	17.3
Washington	3	9,281	27.4	19.3
Worcester	4	3,593	25.4	20.6
Baltimore	5	52,757	24.4	17.7
Kent	6	1,642	23.8	21.1
Wicomico	7	5,520	23.4	17.6
St. Mary's	8	4,731	23.1	15.6
Harford	9	13,006	23.0	16.4
Somerset	10	1,273	22.7	14.6
Carroll	11	10,284	22.6	18.5
Talbot	12	2,539	22.6	18.4
Dorchester	13	2,023	22.0	16.8
Baltimore City	14	35,311	21.4	13.4
Anne Arundel	15	28,173	21.1	15.8
Montgomery	16	50,451	20.7	14.9
Cecil	17	3,676	20.6	12.4
Queen Anne's	18	2,231	20.6	14.8
Calvert	19	3,933	20.5	15.2
Caroline	20	1,598	19.3	14.4
Frederick	21	10,486	18.5	15.1
Howard	22	11,553	17.6	13.1
Charles	23	5,143	17.6	12.3
Prince George's	24	33,914	17.3	11.0
All Maryland		301,606	21.3	15.0

* Includes women over the age of 18 with a 1998 MCDB record who received at least one mammogram; † the denominator includes all women over the age of 18 with an MCDB record. ‡ the denominator includes the population of women over the age of 18 in the county. Refer to the Appendix for further details on how the statistic was constructed.

**Table 2.C.3: Percent of Women with Private Insurance or Medicare
who Received a Mammogram, by Age and County, Estimates from the 1998 Maryland MCDB**

County	Number of women in age group who received a mammogram*				Percent of women in MCDB & in age group who received mammogram†				Percent of women in county & in age group who received mammogram‡			
	18-39	40-50	51-64	65+	18-39	40-50	51-64	65+	18-39	40-50	51-64	65+
Allegany	279	1,319	1,779	3,222	5.5	36.9	46.5	38.3	2.8	23.8	29.7	39.3
Anne Arundel	1,807	7,917	9,981	8,468	3.6	26.3	37.5	31.6	2.4	18.2	32.2	30.8
Baltimore	2,405	13,300	15,993	21,059	3.4	29.4	40.2	34.4	2.1	21.5	30.2	31.6
Baltimore City	1,369	7,948	10,122	15,872	2.7	25.0	35.0	30.0	1.2	15.9	22.3	30.3
Calvert	290	1,231	1,251	1,161	3.9	26.2	36.2	32.6	2.5	19.3	30.3	30.2
Caroline	92	399	498	609	3.2	23.3	34.8	26.8	2.1	17.5	23.1	26.3
Carroll	612	3,300	3,337	3,035	3.7	30.6	40.5	31.0	2.6	23.6	36.7	32.6
Cecil	217	1,031	1,054	1,374	3.3	27.9	36.3	29.1	1.7	14.9	19.9	28.5
Charles	450	1,604	1,783	1,306	3.6	23.8	32.8	29.5	2.3	15.3	28.5	25.3
Dorchester	97	488	632	806	3.7	27.5	36.2	26.5	2.3	20.7	26.5	26.4
Frederick	773	3,318	3,261	3,134	3.3	24.3	34.5	31.1	2.4	20.3	29.9	30.4
Garrett	86	397	548	858	5.0	34.8	50.2	38.2	2.1	17.4	25.5	35.4
Harford	714	4,052	4,489	3,751	3.3	31.1	41.2	33.6	2.1	20.9	33.5	30.7
Howard	1,012	4,297	4,003	2,241	3.7	25.6	31.9	26.8	2.5	17.6	31.0	22.2
Kent	63	301	457	821	3.3	24.2	34.5	34.4	2.2	19.8	31.0	42.0
Montgomery	3,129	14,211	16,102	17,009	3.4	25.1	36.2	34.1	2.2	17.9	29.2	29.1
Prince George's	2,509	10,228	12,440	8,737	3.1	22.0	32.3	29.0	1.7	14.0	27.1	23.9
Queen Anne's	132	611	820	668	3.4	25.3	36.6	29.0	2.3	17.4	27.0	23.9
Somerset	66	259	324	624	4.2	25.5	32.9	30.7	1.9	17.4	19.6	31.3
St. Mary's	372	1,457	1,529	1,373	4.5	31.1	41.1	35.9	2.5	22.4	32.6	31.9
Talbot	103	599	758	1,079	3.3	26.4	34.3	29.9	2.3	22.1	27.2	27.6
Washington	484	2,110	2,702	3,985	4.6	32.1	42.6	38.1	2.7	21.4	29.1	36.5
Wicomico	310	1,384	1,658	2,168	3.9	27.9	38.9	33.7	2.4	21.3	29.9	34.8
Worcester	155	704	1,172	1,562	4.0	28.6	38.9	32.6	2.6	21.6	32.5	33.3
All Maryland	17,526	82,465	96,693	104,922	3.4	26.3	36.7	32.3	2.0	18.2	28.7	30.0

* Includes women with a 1998 MCDB record; † the denominator includes all women in the age group with an MCDB record; ‡ the denominator includes the population of women in the age group residing in the county. Refer to the Appendix for further details on how the statistic was constructed.

Table 2.C.4: Percent of Women Aged 18 and Over with Private Insurance or Medicare who Received a Pap Smear, by County, Estimates from the 1998 Maryland MCDB

County	Number of Women Receiving a Pap Smear*	Pap Smear Rate	
		Percent of women in MCDB†	Percent of women in County‡
Allegany	4,607	22.0	15.6
Anne Arundel	31,774	23.8	17.9
Baltimore	46,940	21.7	15.8
Baltimore City	28,547	17.3	10.9
Calvert	4,297	22.3	16.6
Caroline	616	7.4	5.5
Carroll	11,747	25.8	21.1
Cecil	2,173	12.2	7.3
Charles	6,265	21.5	15.0
Dorchester	623	6.8	5.2
Frederick	15,211	26.9	22.0
Garrett	1,687	27.2	15.4
Harford	12,275	21.7	15.5
Howard	14,259	21.8	16.1
Kent	656	9.5	8.4
Montgomery	67,524	27.8	20.0
Prince George's	49,367	25.1	16.1
Queen Anne's	1,860	17.2	12.3
Somerset	837	14.9	9.6
St. Mary's	5,012	24.5	16.5
Talbot	685	6.1	5.0
Washington	8,933	26.3	18.6
Wicomico	4,800	20.4	15.3
Worcester	2,758	19.5	15.8
All Maryland	323,453	22.8	16.1

* Includes women over the age of 18 with a 1998 MCDB record who received at least one pap smear; † the denominator includes all women over the age of 18 with an MCDB record; ‡ the denominator includes the population of women over the age of 18 residing in the county. Refer to the Appendix for further details on how the statistic was constructed.

Table 2.C.5: Percent of Women Aged 18 and Over with Private Insurance or Medicare who Received a Pap Smear, Highest to Lowest by County, Estimates from the 1998 Maryland MCDB

County	Rank	Number of Women Receiving Pap Smear*	Pap Smear Rate	
			Percent of women in MCDB†	Percent of women in County‡
Montgomery	1	67,524	27.8	20.0
Garrett	2	1,687	27.2	15.4
Frederick	3	15,211	26.9	22.0
Washington	4	8,933	26.3	18.6
Carroll	5	11,747	25.8	21.1
Prince George's	6	49,367	25.1	16.1
St. Mary's	7	5,012	24.5	16.5
Anne Arundel	8	31,774	23.8	17.9
Calvert	9	4,297	22.3	16.6
Allegany	10	4,607	22.0	15.6
Howard	11	14,259	21.8	16.1
Baltimore	12	46,940	21.7	15.8
Harford	13	12,275	21.7	15.5
Charles	14	6,265	21.5	15.0
Wicomico	15	4,800	20.4	15.3
Worcester	16	2,758	19.5	15.8
Baltimore City	17	28,547	17.3	10.9
Queen Anne's	18	1,860	17.2	12.3
Somerset	19	837	14.9	9.6
Cecil	20	2,173	12.2	7.3
Kent	21	656	9.5	8.4
Caroline	22	616	7.4	5.5
Dorchester	23	623	6.8	5.2
Talbot	24	685	6.1	5.0
All Maryland		323,453	22.8	16.1

* Includes women over the age of 18 with a 1998 MCDB record who received at least one pap smear; † the denominator includes all females over the age of 18 with an MCDB record; ‡ the denominator includes the population of women over the age of 18 residing in the county. Refer to the Appendix for further details on how the statistic was constructed.

**Table 2.C.6: Percent of Women with Private Insurance or Medicare
who Received a Pap Smear, by Age and County, Estimates from the 1998 Maryland MCDB**

County	Number of women in age group who received a Pap Smear*				Percent of women in MCDB & age group who received Pap Smear†				Percent of women in county & age group who received Pap Smear‡			
	18-39	40-50	51-64	65+	18-39	40-50	51-64	65+	18-39	40-50	51-64	65+
Allegany	1,769	1,222	1,149	467	34.7	34.2	30.0	5.6	18.0	22.0	19.2	5.7
Anne Arundel	13,646	8,059	7,381	2,688	27.3	26.8	27.8	10.0	18.0	18.5	23.8	9.8
Baltimore	18,735	11,302	10,055	6,848	26.7	25.0	25.3	11.2	16.1	18.2	19.0	10.3
Baltimore City	12,087	6,870	5,586	4,004	23.8	21.6	19.3	7.6	10.5	13.7	12.3	7.7
Calvert	1,958	1,178	840	321	26.1	25.1	24.3	9.0	17.0	18.4	20.4	8.4
Caroline	309	161	124	22	10.7	9.4	8.7	1.0	7.1	7.1	5.8	1.0
Carroll	5,138	3,315	2,483	811	30.9	30.8	30.2	8.3	22.0	23.7	27.3	8.7
Cecil	1,003	556	386	228	15.3	15.1	13.3	4.8	7.9	8.1	7.3	4.7
Charles	3,259	1,527	1,017	462	26.0	22.6	18.7	10.4	16.4	14.5	16.3	9.0
Dorchester	250	162	177	34	9.5	9.1	10.1	1.1	5.8	6.9	7.4	1.1
Frederick	7,536	4,220	2,575	880	32.3	31.0	27.3	8.7	23.8	25.8	23.6	8.5
Garrett	620	394	345	328	35.9	34.5	31.6	14.6	15.2	17.3	16.0	13.5
Harford	5,344	3,050	2,530	1,351	24.8	23.4	23.2	12.1	15.6	15.7	18.9	11.1
Howard	6,937	3,954	2,696	672	25.0	23.6	21.5	8.0	16.9	16.2	20.9	6.7
Kent	213	145	152	146	11.0	11.7	11.5	6.1	7.5	9.5	10.3	7.5
Montgomery	28,770	17,173	13,318	8,263	31.3	30.4	29.9	16.5	19.9	21.7	24.1	14.1
Prince George's	25,388	12,269	8,084	3,626	31.3	26.4	21.0	12.0	16.7	16.8	17.6	9.9
Queen Anne's	824	486	431	119	21.3	20.1	19.2	5.2	14.3	13.8	14.2	4.3
Somerset	358	261	209	9	22.9	25.7	21.2	0.4	10.0	17.5	12.6	0.5
St. Mary's	2,388	1,283	946	395	29.1	27.4	25.4	10.3	16.0	19.7	20.2	9.2
Talbot	284	158	192	51	9.0	7.0	8.7	1.4	6.4	5.8	6.9	1.3
Washington	3,511	2,249	1,819	1,354	33.4	34.2	28.7	13.0	19.6	22.8	19.6	12.4
Wicomico	2,069	1,479	1,173	79	26.2	29.8	27.5	1.2	15.7	22.8	21.2	1.3
Worcester	1,069	773	813	103	27.5	31.4	27.0	2.2	18.1	23.7	22.5	2.2
All Maryland	143,465	82,246	64,481	33,261	28.0	26.3	24.5	10.2	16.5	18.1	19.1	9.5

* Includes women with a 1998 MCDB record; † the denominator includes all women in the age group with an MCDB record; ‡ the denominator includes the population of women in the age group residing in the county. Refer to the Appendix for further details on how the statistic was constructed.

Table 2.C.7: Percent of Privately Insured Residents and Medicare Beneficiaries who Received an Influenza Vaccine, by County, Estimates from the 1998 Maryland MCDB

County	Number Receiving Influenza Vaccine*	Influenza Vaccine Rate	
		for persons in MCDB †	for persons in County ‡
Allegany	6,763	15.5	9.5
Anne Arundel	30,400	10.4	6.4
Baltimore	57,733	12.8	8.0
Baltimore City	34,403	10.6	5.3
Calvert	5,156	11.7	7.2
Caroline	1,909	10.3	6.5
Carroll	11,906	11.3	8.0
Cecil	5,462	13.4	6.6
Charles	5,814	9.1	4.9
Dorchester	2,744	13.9	9.3
Frederick	14,225	11.0	7.6
Garrett	2,345	17.1	8.0
Harford	10,608	8.2	4.9
Howard	16,080	10.8	6.8
Kent	2,361	15.9	12.5
Montgomery	67,696	13.0	8.1
Prince George's	36,517	9.4	4.7
Queen Anne's	2,737	11.0	6.9
Somerset	1,387	12.1	5.7
St. Mary's	5,435	11.7	6.2
Talbot	2,973	12.2	9.0
Washington	11,216	15.4	8.8
Wicomico	4,666	9.2	5.9
Worcester	4,241	14.3	9.9
All Maryland	344,777	11.4	6.7

* Includes individuals with a 1998 MCDB record who received an influenza vaccine; † the denominator includes residents of the county with an MCDB record; ‡ denominator includes the population residing in the county. Refer to the Appendix for further details on how the statistic was constructed.

Table 2.C.8: Percent of Privately Insured Residents and Medicare Beneficiaries who Received an Influenza Vaccine, Highest to Lowest by County, Estimates from the 1998 Maryland MCDB

County	Rank	Number Receiving Influenza Vaccine*	Influenza Vaccine Rate	
			Percent of Persons in MCDB†	Percent of Persons in County‡
Garrett	1	2,345	17.1	8.0
Kent	2	2,361	15.9	12.5
Allegany	3	6,763	15.5	9.5
Washington	4	11,216	15.4	8.8
Worcester	5	4,241	14.3	9.9
Dorchester	6	2,744	13.9	9.3
Cecil	7	5,462	13.4	6.6
Montgomery	8	67,696	13.0	8.1
Baltimore	9	57,733	12.8	8.0
Talbot	10	2,973	12.2	9.0
Somerset	11	1,387	12.1	5.7
Calvert	12	5,156	11.7	7.2
St. Mary's	13	5,435	11.7	6.2
Carroll	14	11,906	11.3	8.0
Queen Anne's	15	2,737	11.0	6.9
Frederick	16	14,225	11.0	7.6
Howard	17	16,080	10.8	6.8
Baltimore City	18	34,403	10.6	5.3
Anne Arundel	19	30,400	10.4	6.4
Caroline	20	1,909	10.3	6.5
Prince George's	21	36,517	9.4	4.7
Wicomico	22	4,666	9.2	5.9
Charles	23	5,814	9.1	4.9
Harford	24	10,608	8.2	4.9
All Maryland		344,777	11.4	6.7

* Includes individuals with a 1998 MCDB record who received an influenza vaccine; † the denominator includes residents of the county with an MCDB record; ‡ the denominator includes the population residing in the county. Refer to the Appendix for further details on how the statistic was constructed.

**Table 2.C.9: Percent of Residents with Private Insurance or Medicare Beneficiaries
who Received an Influenza Vaccine, by Age and County, Estimates from the 1998 Maryland MCDB**

County	Number of Persons in Age Group who Received an Influenza Vaccine*					Percent in MCDB & Age Group who Received an Influenza Vaccine†					Percent in County & Age Group who Received an Influenza Vaccine‡				
	<18	18-39	40-50	51-64	65+	<18	18-39	40-50	51-64	65+	<18	18-39	40-50	51-64	65+
Allegany	490	97	182	545	5,447	6.0	1.2	2.9	7.5	40.4	3.0	0.5	1.7	4.7	40.7
Anne Arundel	7,092	1,344	1,953	4,273	15,733	10.3	1.7	3.8	8.9	35.1	5.9	0.9	2.2	6.8	33.2
Baltimore	8,125	1,880	2,919	6,365	38,426	8.6	1.7	3.8	9.2	38.4	5.1	0.8	2.4	6.2	33.9
Baltimore City	4,390	1,020	1,731	3,625	23,627	6.9	1.3	3.3	7.4	29.1	2.7	0.5	1.8	4.5	28.0
Calvert	1,127	250	337	713	2,728	9.3	2.2	4.2	11.2	45.8	5.4	1.1	2.6	8.3	40.5
Caroline	337	74	104	252	1,142	7.3	1.6	3.5	9.5	30.2	4.2	0.9	2.2	6.1	28.1
Carroll	2,190	437	661	1,259	7,356	7.9	1.6	3.5	8.2	45.3	5.4	0.9	2.3	6.8	46.9
Cecil	662	195	334	644	3,627	6.3	1.8	5.2	11.9	46.2	2.8	0.8	2.3	6.0	41.6
Charles	1,385	291	383	897	2,854	8.5	1.5	3.4	9.2	38.6	3.9	0.7	1.8	7.0	32.3
Dorchester	381	66	137	365	1,794	8.9	1.6	4.7	11.5	35.7	5.4	0.8	3.0	8.1	34.4
Frederick	3,306	579	847	1,615	7,876	9.7	1.6	3.6	9.2	47.8	6.5	0.9	2.5	7.3	44.7
Garrett	137	46	97	288	1,776	4.2	1.7	5.0	13.8	47.4	1.7	0.6	2.1	6.9	41.2
Harford	2,680	475	701	1,306	5,438	8.0	1.4	3.1	6.6	29.4	4.5	0.7	1.8	4.8	25.8
Howard	4,667	971	1,446	2,732	6,259	11.7	2.2	5.1	11.9	44.8	7.5	1.2	3.0	10.1	36.7
Kent	215	48	83	245	1,768	7.0	1.6	3.9	10.4	43.1	5.3	0.9	2.9	8.6	50.1
Montgomery	16,025	2,860	3,986	6,476	38,298	13.3	2.0	4.2	8.1	46.6	7.9	1.0	2.6	6.1	38.9
Prince George's	8,719	1,684	2,303	5,393	18,405	10.4	1.4	3.2	8.2	37.4	4.4	0.6	1.7	6.0	29.9
Queen Anne's	531	94	155	316	1,639	8.6	1.5	3.7	7.7	40.3	5.3	0.8	2.2	5.2	31.9
Somerset	143	41	67	172	964	6.3	1.8	3.9	9.4	28.7	2.9	0.4	2.0	5.3	27.4
St. Mary's	1,219	260	327	666	2,959	10.3	2.0	4.1	9.6	44.5	4.7	0.9	2.4	7.0	37.7
Talbot	325	78	151	359	2,059	6.1	1.5	4.0	9.0	33.4	4.6	0.9	2.9	6.8	30.1
Washington	1,320	320	483	1,145	7,945	9.3	1.8	4.2	9.5	46.9	4.4	0.8	2.4	6.3	43.4
Wicomico	863	123	193	488	2,998	6.9	1.0	2.4	6.5	28.8	4.3	0.5	1.5	4.7	29.3
Worcester	308	74	133	437	3,288	5.4	1.2	3.2	8.4	38.5	3.2	0.6	2.1	6.4	39.7
All Maryland	66,637	13,307	19,713	40,576	204,406	9.7	1.7	3.8	8.7	38.6	5.2	0.8	2.2	6.2	34.6

* Includes individuals with a 1998 MCDB record; † the denominator includes all residents of the county in the age group with a 1998 MCDB record;

‡ the denominator includes the county population in the age group. Refer to the Appendix for further details on how the statistic was constructed.

Table 2.C.10: Percent of Privately Insured Residents and Medicare Beneficiaries Who Received Pneumonia Vaccine, by County, Estimates from the 1998 Maryland MCDB

County	Number Receiving Pneumonia Vaccine*	Pneumonia Vaccine Rate	
		for persons in MCDB†	for persons in County‡
Allegany	1,166	2.7	1.6
Anne Arundel	3,800	1.3	0.8
Baltimore	7,296	1.6	1.0
Baltimore City	4,635	1.4	0.7
Calvert	456	1.0	0.6
Caroline	267	1.4	0.9
Carroll	1,198	1.1	0.8
Cecil	688	1.7	0.8
Charles	598	0.9	0.5
Dorchester	357	1.8	1.2
Frederick	1,579	1.2	0.9
Garrett	352	2.6	1.2
Harford	1,452	1.1	0.7
Howard	1,152	0.8	0.5
Kent	328	2.2	1.7
Montgomery	6,267	1.2	0.8
Prince George's	3,820	1.0	0.5
Queen Anne's	271	1.1	0.7
Somerset	134	1.2	0.6
St. Mary's	413	0.9	0.5
Talbot	478	2.0	1.5
Washington	1,278	1.8	1.0
Wicomico	581	1.1	0.7
Worcester	541	1.8	1.3
All Maryland	39,107	1.3	0.8

* Includes individuals with a 1998 MCDB record who received a pneumonia vaccine; † the denominator includes residents of the county with an MCDB record; ‡ the denominator includes the population residing in the county. Refer to the Appendix for further details on how the statistic was constructed.

Table 2.C.11: Percent of Privately Insured Residents and Medicare Beneficiaries who Received a Pneumonia Vaccine, Highest to Lowest by County, Estimates from the 1998 Maryland MCDB

County	Rank	Number Receiving Pneumonia Vaccine*	Pneumonia Vaccine Rate	
			Percent of Persons in MCDB†	Percent of Persons in County‡
Allegany	1	1,166	2.7	1.6
Garrett	2	352	2.6	1.2
Kent	3	328	2.2	1.7
Talbot	4	478	2.0	1.5
Worcester	5	541	1.8	1.3
Dorchester	6	357	1.8	1.2
Washington	7	1,278	1.8	1.0
Cecil	8	688	1.7	0.8
Baltimore	9	7,296	1.6	1.0
Caroline	10	267	1.4	0.9
Baltimore City	11	4,635	1.4	0.7
Anne Arundel	12	3,800	1.3	0.8
Frederick	13	1,579	1.2	0.9
Montgomery	14	6,267	1.2	0.8
Somerset	15	134	1.2	0.6
Carroll	16	1,198	1.1	0.8
Wicomico	17	581	1.1	0.7
Harford	18	1,452	1.1	0.7
Queen Anne's	19	271	1.1	0.7
Calvert	20	456	1.0	0.6
Prince George's	21	3,820	1.0	0.5
Charles	22	598	0.9	0.5
St. Mary's	23	413	0.9	0.5
Howard	24	1,152	0.8	0.5
All Maryland		39,107	1.3	0.8

* Includes individuals with a 1998 MCDB record who received a pneumonia vaccine; † the denominator includes residents of the county with an MCDB record; ‡ the denominator includes the population residing in the county. Refer to the Appendix for further details on how the statistic was constructed.

Table 2.C.12: Percent of Residents with Private Insurance or Medicare Beneficiaries who Received a Pneumonia Vaccine, by Age and County, Estimates from the 1998 Maryland MCDB

County	Number of persons in age group who received pneumonia vaccine*					Percent of persons in MCDB & age group who received pneumonia vaccine†					Percent of persons in county & age group who received pneumonia vaccine‡				
	<18	18-39	40-50	51-64	65+	<18	18-39	40-50	51-64	65+	<18	18-39	40-50	51-64	65+
Allegany	12	6	22	87	1,039	0.2	0.1	0.4	1.2	7.7	0.1	0.0	0.2	0.8	7.8
Anne Arundel	72	122	215	718	2,671	0.1	0.2	0.4	1.5	6.0	0.1	0.1	0.2	1.2	5.6
Baltimore	35	189	343	988	5,734	0.0	0.2	0.5	1.4	5.7	0.0	0.1	0.3	1.0	5.1
Baltimore City	18	137	269	630	3,578	0.0	0.2	0.5	1.3	4.4	0.0	0.1	0.3	0.8	4.2
Calvert	12	16	30	82	315	0.1	0.1	0.4	1.3	5.3	0.1	0.1	0.2	1.0	4.7
Caroline	6	12	12	59	178	0.1	0.3	0.4	2.2	4.7	0.1	0.1	0.3	1.4	4.4
Carroll	13	32	60	155	938	0.1	0.1	0.3	1.0	5.8	0.0	0.1	0.2	0.8	6.0
Cecil	6	20	51	95	516	0.1	0.2	0.8	1.8	6.6	0.0	0.1	0.4	0.9	5.9
Charles	13	22	39	132	392	0.1	0.1	0.4	1.4	5.3	0.0	0.1	0.2	1.0	4.4
Dorchester	7	13	20	61	256	0.2	0.3	0.7	1.9	5.1	0.1	0.2	0.4	1.4	4.9
Frederick	14	49	101	264	1,150	0.0	0.1	0.4	1.5	7.0	0.0	0.1	0.3	1.2	6.5
Garrett			20	51	274			1.0	2.5	7.3			0.4	1.2	6.4
Harford	23	72	106	260	990	0.1	0.2	0.5	1.3	5.4	0.0	0.1	0.3	1.0	4.7
Howard	14	84	101	245	708	0.0	0.2	0.4	1.1	5.1	0.0	0.1	0.2	0.9	4.2
Kent		11	11	37	267		0.4	0.5	1.6	6.5		0.2	0.4	1.3	7.6
Montgomery	85	180	340	755	4,899	0.1	0.1	0.4	0.9	6.0	0.0	0.1	0.2	0.7	5.0
Prince George's	53	194	267	743	2,561	0.1	0.2	0.4	1.1	5.2	0.0	0.1	0.2	0.8	4.2
Queen Anne's	10	7	15	36	203	0.2	0.1	0.4	0.9	5.0	0.1	0.1	0.2	0.6	4.0
Somerset			5	24	99			0.3	1.3	2.9			0.2	0.7	2.8
St. Mary's		15	23	67	304		0.1	0.3	1.0	4.6		0.1	0.2	0.7	3.9
Talbot		13	15	70	375		0.3	0.4	1.8	6.1		0.2	0.3	1.3	5.5
Washington	15	48	98	221	896	0.1	0.3	0.9	1.8	5.3	0.1	0.1	0.5	1.2	4.9
Wicomico	41	15	32	90	403	0.3	0.1	0.4	1.2	3.9	0.2	0.1	0.3	0.9	3.9
Worcester	13		20	79	424	0.2		0.5	1.5	5.0	0.1		0.3	1.2	5.1
All Maryland	478	1,270	2,215	5,949	29,170	0.1	0.2	0.4	1.3	5.5	0.0	0.1	0.3	0.9	4.9

* Includes individuals with a 1998 MCDB record; † the denominator includes all residents of the county in the age group with a 1998 MCDB record; ‡ the denominator includes the county population in the age group. Refer to the Appendix for further details on how the statistic was constructed. Shading indicates that the count of individuals in the county with the selected reportable condition is 5 or less.

D. Receipt of Preventive Services by Privately Insured Residents and Medicare Beneficiaries with Selected Chronic Conditions

This section contains estimates of the percentage of privately insured individuals and Medicare recipients with either diabetes or asthma represented in the MCDB, who received tests that are recognized to prevent or moderate exacerbation of these conditions. The first of these health statistics includes the percentage of health care recipients in the MCDB with a diagnosis of diabetes that received hemoglobin A1c blood screening. The second health statistic is the proportion of individuals with a diagnosis of asthma that received at least one pulmonary function test during calendar year 1998.

Organization of Tables

Table 2.D.1 contains county-level estimates of the number of individuals represented in the MCDB, by county, who were diagnosed with diabetes and the proportion of these who received at least one hemoglobin A1c test. County rankings on this measure are listed in Table 2.D.2. Estimates of receipt of hemoglobin A1c tests, by county and age group are contained in Table 2.D.3.

County-specific rates of receipt of pulmonary function tests among patients in the MCDB with a diagnosis of asthma are reported in Table 2.D.4, and Table 2.D.5 reports county rankings. Rates of receipt of pulmonary function tests, by age group, are contained in Table 2.D.6.

Approaches for Estimating Health Care Recipients with Selected Chronic Conditions and Caveats Related to these Approaches

Counts of the number of individuals in the MCDB with either diabetes or asthma determined on the basis of diagnosis alone may under-estimate the actual count if either providers or health plans failed to report this information. For instance, if a patient sought treatment for a condition unrelated to diabetes or asthma, it is expected that the condition for which the patient sought treatment would be coded as the primary diagnosis and diabetes or asthma may be coded as a secondary diagnosis. If the provider coded only the primary diagnosis or the health plan submitted only the primary diagnosis to the MCDB,⁹ it is probable that the reported number of individuals with these conditions under-estimates the actual number of patients in the MCDB with these diagnoses.

Diabetes - For the reasons indicated above, counts of the number of patients in the MCDB with diabetes were estimated using two alternative approaches. In the first approach, individuals in the MCDB were identified as having diabetes if at least one MCDB record contained a diagnosis code (ICD-9) corresponding to this condition. The second approach identified patients with diabetes on the basis of diagnosis and procedure codes (CPT-4). By this approach, patients in

⁹ Although the majority of plans submitted between 3 and 4 diagnosis codes for each patient record, a total of 14 plans reported only 1 diagnosis code for each patient record contributed to the MCDB.

the MCDB were identified as having diabetes if at least one record contained a diabetes diagnosis code *or* if the individual received a hemoglobin A1c test. Use of both diagnoses and procedure codes produces a statewide count of the number of patients with diabetes that is 15 percent higher than estimated using diagnosis codes alone. (Refer to the Appendix for a listing of ICD-9 and CPT-4 codes used to identify patients with diabetes.)

Discrepancies may also exist between the estimated rate of receipt of hemoglobin A1c (HbA1c) tests (the ratio of patients receiving HbA1c tests to the total population of people with diabetes) and the actual rate. Those rates that were computed using only diagnoses to identify the population base may understate actual rates of receipt of HbA1c tests among individuals in the MCDB because it is possible that services have been omitted from the MCDB¹⁰, which would decrease the ratio's numerator. However, as previously discussed, counts of the total number of individuals with diabetes (denominator) may also be underestimated. Taken together, discrepancies in both the ratio's numerator and denominator may cause these rates to more closely approach or even exceed actual rates.

Rates of receipt of hemoglobin A1c computed with both diagnosis and procedure codes may be higher than the actual rates due to self-selection bias. In other words, if the provider or plan did not report that the patient has diabetes, the individual would only be represented in the denominator if they received a hemoglobin A1c test. This would tend to overestimate rates of receipt of hemoglobin A1c.

Asthma - Since pulmonary function tests are not specific to asthma (patients with other conditions, such as chronic obstructive pulmonary disease (COPD), may also receive a pulmonary function test), receipt of this test could not be used to estimate counts of the number of individuals with this condition. Individuals with asthma were therefore identified on the basis of diagnosis code. (Refer to the Appendix for a listing of ICD-9 codes used in identifying patients with asthma.)

Estimated rates of receipt of pulmonary function tests may understate actual rates of receipt among individuals in the MCDB, due to data omissions. However, like with diabetes rates, counts of the number of individuals with asthma may also be underestimated; thus, the estimated rates may be closer to and possibly exceed the actual rates of receipt of pulmonary function tests.

¹⁰ For example, laboratory tests provided by hospital outpatient departments (which are of particular relevance for this health statistic) are excluded from MCDB submission requirements.

Table 2.D.1: Percent of Privately Insured Residents and Medicare Beneficiaries with Diabetes who Received an HbA1c test, by County, Estimates from the 1998 Maryland MCDB

County	Number with Diabetes*		Number who Received an HbA1c		Percent who Received an HbA1c	
	Diabetics identified from ICD-9†	Diabetics identified from ICD-9 & CPT-4‡	Diabetics identified from ICD-9†	Diabetics identified from ICD-9 & CPT-4‡	Diabetics identified from ICD-9†	Diabetics identified from ICD-9 & CPT-4‡
Allegany	3,722	4,161	1,316	1,755	35.4	42.2
Anne Arundel	14,470	16,394	7,097	9,021	49.1	55.0
Baltimore	25,109	29,088	12,182	16,161	48.5	55.6
Baltimore City	25,915	28,717	10,260	13,062	39.6	45.5
Calvert	1,834	2,120	762	1,048	41.6	49.4
Caroline	1,156	1,298	387	529	33.5	40.8
Carroll	4,442	5,205	1,979	2,742	44.6	52.7
Cecil	2,358	2,507	508	657	21.5	26.2
Charles	3,056	3,505	1,478	1,927	48.4	55.0
Dorchester	1,500	1,579	276	355	18.4	22.5
Frederick	4,947	6,192	2,593	3,838	52.4	62.0
Garrett	1,077	1,177	283	383	26.3	32.5
Harford	5,668	6,390	2,822	3,544	49.8	55.5
Howard	4,611	5,658	2,122	3,169	46.0	56.0
Kent	1,051	1,120	333	402	31.7	35.9
Montgomery	18,343	22,787	10,713	15,157	58.4	66.5
Prince George's	19,953	23,181	8,979	12,207	45.0	52.7
Queen Anne's	1,242	1,475	602	835	48.5	56.6
Somerset	1,023	1,072	129	178	12.6	16.6
St. Mary's	2,525	2,777	1,227	1,479	48.6	53.3
Talbot	1,308	1,428	460	580	35.2	40.6
Washington	4,694	5,614	2,698	3,618	57.5	64.5
Wicomico	3,196	3,430	657	891	20.6	26.0
Worcester	2,138	2,255	343	460	16.0	20.4
All Maryland	155,338	179,130	70,206	93,998	45.2	52.5

* Includes individuals with diabetes and a 1998 MCDB record; † includes individuals with an MCDB record and a corresponding ICD-9 code between 250 – 250.9; ‡ includes individuals with an MCDB record and a corresponding ICD-9 code between 250 – 250.9 or a CPT-4 code of 83036. Refer to the Appendix for further details on how the statistic was constructed.

Table 2.D.2: Percent of Privately Insured Residents and Medicare Beneficiaries with Diabetes who Received an HbA1c test, Highest to Lowest by County, Estimates from the 1998 Maryland MCDB

County	Rank	Number with Diabetes*		Number who Received an HbA1c		Percent who Received an HbA1c	
		Diabetics identified from ICD-9†	Diabetics identified from ICD-9 & CPT-4‡	Diabetics identified from ICD-9†	Diabetics identified from ICD-9 & CPT-4‡	Diabetics identified from ICD-9†	Diabetics identified from ICD-9 & CPT-4‡
Montgomery	1	18,343	22,787	10,713	15,157	58.4	66.5
Washington	2	4,694	5,614	2,698	3,618	57.5	64.5
Frederick	3	4,947	6,192	2,593	3,838	52.4	62.0
Harford	4	5,668	6,390	2,822	3,544	49.8	55.5
Anne Arundel	5	14,470	16,394	7,097	9,021	49.1	55.0
St. Mary's	6	2,525	2,777	1,227	1,479	48.6	53.3
Baltimore	7	25,109	29,088	12,182	16,161	48.5	55.6
Queen Anne's	8	1,242	1,475	602	835	48.5	56.6
Charles	9	3,056	3,505	1,478	1,927	48.4	55.0
Howard	10	4,611	5,658	2,122	3,169	46.0	56.0
Prince George's	11	19,953	23,181	8,979	12,207	45.0	52.7
Carroll	12	4,442	5,205	1,979	2,742	44.6	52.7
Calvert	13	1,834	2,120	762	1,048	41.6	49.4
Baltimore City	14	25,915	28,717	10,260	13,062	39.6	45.5
Allegany	15	3,722	4,161	1,316	1,755	35.4	42.2
Talbot	16	1,308	1,428	460	580	35.2	40.6
Caroline	17	1,156	1,298	387	529	33.5	40.8
Kent	18	1,051	1,120	333	402	31.7	35.9
Garrett	19	1,077	1,177	283	383	26.3	32.5
Cecil	20	2,358	2,507	508	657	21.5	26.2
Wicomico	21	3,196	3,430	657	891	20.6	26.0
Dorchester	22	1,500	1,579	276	355	18.4	22.5
Worcester	23	2,138	2,255	343	460	16.0	20.4
Somerset	24	1,023	1,072	129	178	12.6	16.6
All Maryland		155,338	179,130	70,206	93,998	45.2	52.5

* Includes individuals with diabetes and a 1998 MCDB record; † includes individuals with an MCDB record and a corresponding ICD-9 code between 250 – 250.9; ‡ includes individuals with an MCDB record and a corresponding ICD-9 code between 250 – 250.9 or a CPT-4 code of 83036. Refer to the Appendix for further details on how the statistic was constructed.

Table 2.D.3: Percent of Privately Insured Residents and Medicare Beneficiaries with Diabetes who Received an HbA1c test, by County and Age, Estimates from the 1998 Maryland MCDB

County	Percent in age group who received an HbA1c (Diabetics identified from ICD-9 codes only) [†]					Percent in age group who received an HbA1c (Diabetics identified from ICD-9 & CPT-4 codes) [‡]				
	<18	18-39	40-50	51-64	65+	<18	18-39	40-50	51-64	65+
Allegany	31.3	44.4	47.9	40.7	32.2	35.3	63.4	58.8	50.5	36.2
Anne Arundel	35.7	39.5	45.0	49.0	51.4	44.9	54.5	56.2	57.0	53.9
Baltimore	41.6	40.6	45.5	50.1	49.3	50.0	58.3	57.7	58.9	53.4
Baltimore City	29.1	33.4	37.5	40.1	40.4	39.3	47.7	48.0	47.1	44.0
Calvert	36.8	46.2	47.6	46.4	37.5	52.0	63.0	62.1	56.3	39.3
Caroline	27.3	30.2	32.8	36.2	32.9	50.0	48.2	41.5	46.1	37.1
Carroll	48.4	55.1	51.5	53.7	37.8	55.4	70.2	65.0	63.3	41.2
Cecil	14.7	21.3	23.4	21.8	21.3	23.7	32.3	33.1	28.1	23.4
Charles	18.4	38.4	40.4	49.2	52.6	29.6	55.2	50.4	57.8	55.3
Dorchester	33.3	20.7	30.9	28.2	11.1	46.7	33.3	40.7	32.8	12.1
Frederick	45.9	54.1	54.4	57.0	50.0	57.7	73.5	70.8	69.1	53.7
Garrett	14.3	12.1	26.0	28.1	26.5	14.3	19.4	40.0	34.9	31.6
Harford	41.3	46.1	48.7	46.6	52.4	48.2	57.4	57.8	55.2	54.8
Howard	31.7	43.0	42.6	42.9	50.9	46.1	65.3	59.5	53.9	53.8
Kent	12.5	30.6	35.8	30.9	31.8	12.5	44.3	45.3	36.8	33.8
Montgomery	38.2	47.3	54.7	57.0	61.4	58.6	67.7	69.3	68.6	64.9
Prince George's	22.6	35.2	37.4	42.3	50.9	37.5	55.1	50.9	51.5	53.9
Queen Anne's	33.3	45.3	48.4	51.0	47.7	44.4	69.5	65.1	60.5	49.9
Somerset	0.0	17.5	31.7	18.1	7.8	20.0	36.5	41.1	23.5	8.5
St. Mary's	7.0	47.3	48.2	52.4	48.8	11.7	57.8	57.5	59.5	49.9
Talbot	31.3	28.4	40.6	35.4	35.1	38.9	42.9	52.0	44.0	37.4
Washington	44.4	61.9	61.8	61.5	55.5	62.5	76.1	73.8	70.5	59.5
Wicomico	8.3	18.8	30.5	26.7	16.0	12.0	31.7	41.5	34.5	17.6
Worcester	28.6	25.0	27.5	28.7	9.6	37.5	39.4	39.8	35.5	10.5
All Maryland	32.8	39.9	43.6	45.8	46.0	45.3	57.8	56.6	55.2	49.4

[†] Includes individuals with an MCDB record and a corresponding ICD-9 code between 250 – 250.9; [‡] includes individuals with an MCDB record and a corresponding ICD-9 code between 250 – 250.9 or a CPT-4 code of 83036. Refer to the Appendix for further details on how the statistic was constructed.

Table 2.D.4: Percent of Privately Insured Residents and Medicare Beneficiaries with Asthma who Received a Pulmonary Function Test, by County, Estimates from the 1998 Maryland MCDB

County	Number of persons with Asthma*	Number Received Pulmonary Function Test	Percent Received Pulmonary Function Test
Allegany	1,743	483	27.7
Anne Arundel	9,487	3,984	42.0
Baltimore	14,201	4,454	31.4
Baltimore City	11,884	3,074	25.9
Calvert	1,292	371	28.7
Caroline	692	178	25.7
Carroll	3,127	1,140	36.5
Cecil	1,873	494	26.4
Charles	1,709	609	35.6
Dorchester	711	142	20.0
Frederick	3,556	1,438	40.4
Garrett	340	72	21.2
Harford	4,395	1,223	27.8
Howard	5,117	1,878	36.7
Kent	516	121	23.5
Montgomery	14,792	6,702	45.3
Prince George's	10,763	4,661	43.3
Queen Anne's	932	303	32.5
Somerset	404	95	23.5
St. Mary's	1,542	651	42.2
Talbot	935	255	27.3
Washington	2,314	591	25.5
Wicomico	1,589	348	21.9
Worcester	1,067	304	28.5
All Maryland	94,981	33,571	35.4

* Includes individuals with asthma and a 1998 MCDB record. Refer to the Appendix for further details on how the statistic was constructed.

**Table 2.D.5: Percent of Privately Insured Residents and Medicare Beneficiaries with Asthma
who Received a Pulmonary Function Test, Highest to Lowest by County, Estimates from the 1998 Maryland MCDB**

County	Rank	Number of Persons with Asthma*	Number who Received a Pulmonary Function Test	Percent who Received a Pulmonary Function Test
Montgomery	1	14,792	6,702	45.3
Prince George's	2	10,763	4,661	43.3
St. Mary's	3	1,542	651	42.2
Anne Arundel	4	9,487	3,984	42.0
Frederick	5	3,556	1,438	40.4
Howard	6	5,117	1,878	36.7
Carroll	7	3,127	1,140	36.5
Charles	8	1,709	609	35.6
Queen Anne's	9	932	303	32.5
Baltimore	10	14,201	4,454	31.4
Calvert	11	1,292	371	28.7
Worcester	12	1,067	304	28.5
Harford	13	4,395	1,223	27.8
Allegany	14	1,743	483	27.7
Talbot	15	935	255	27.3
Cecil	16	1,873	494	26.4
Baltimore City	17	11,884	3,074	25.9
Caroline	18	692	178	25.7
Washington	19	2,314	591	25.5
Somerset	20	404	95	23.5
Kent	21	516	121	23.5
Wicomico	22	1,589	348	21.9
Garrett	23	340	72	21.2
Dorchester	24	711	142	20.0
All Maryland		94,981	33,571	35.4

* Includes individuals with asthma and a 1998 MCDB record. Refer to the Appendix for further details on how the statistic was constructed.

Table 2.D.6: Percent of Privately Insured Residents and Medicare Beneficiaries with Asthma* who Received a Pulmonary Function Test, by County and Age, Estimates from the 1998 Maryland MCDB

County	Percent in age group who received a pulmonary function test				
	<18	18-39	40-50	51-64	65+
Allegany	35.0	27.9	25.5	18.2	28.1
Anne Arundel	38.4	39.5	46.4	48.8	44.0
Baltimore	18.5	31.3	32.3	39.0	40.3
Baltimore City	17.3	23.2	28.8	30.5	34.9
Calvert	24.1	29.0	36.1	28.0	33.2
Caroline	19.5	26.3	21.2	32.6	34.5
Carroll	26.4	31.9	37.3	46.5	50.1
Cecil	15.2	27.4	36.4	27.4	38.5
Charles	38.6	33.4	34.1	35.0	34.1
Dorchester	11.2	23.7	23.5	29.7	23.5
Frederick	35.9	39.3	39.5	43.4	47.0
Garrett	18.2	22.9	11.4	23.9	25.0
Harford	21.3	30.0	31.6	35.9	31.1
Howard	29.8	38.9	41.0	48.7	36.7
Kent	17.2	31.9	22.2	26.4	22.2
Montgomery	40.9	45.4	48.9	52.5	45.5
Prince George's	39.2	43.5	46.2	49.5	43.1
Queen Anne's	25.0	35.4	42.2	40.2	30.7
Somerset	16.0	26.7	15.6	24.1	38.8
St. Mary's	41.1	37.1	35.3	51.8	48.6
Talbot	16.8	22.4	32.4	29.6	35.5
Washington	15.4	28.9	32.4	26.5	27.7
Wicomico	14.7	19.1	26.9	28.5	32.0
Worcester	18.1	21.6	30.2	27.1	40.5
All Maryland	29.2	35.1	38.2	41.3	39.4

* Includes individuals with asthma and a 1998 MCDB record. Refer to the Appendix for further details on how the statistic was constructed.

A. Most Frequent Diagnoses for which Medicare Beneficiaries in the State Sought Outpatient and Emergency Room Treatment

Organization of Tables

The top 15 diagnoses for which Medicare beneficiaries with an MCDB record sought outpatient and emergency room treatment are reported in Tables 3.A.1 and 3.A.2, respectively. Both Medicare aged and disabled beneficiaries with Part B coverage are included in these estimates.

Determining Top Outpatient Diagnoses

As discussed in section 2.B the most frequent diagnoses were identified from records with an evaluation and management (E&M) procedure code (CPT-4 99200 – 99499) to ensure that the coded diagnosis was based on a clinician’s judgement of the patient’s condition and not by clerical or technical personnel. This criterion excludes records for services performed outside a physician’s office, including radiological, laboratory, and certain diagnostic services. Patients who sought treatment for the same condition on more than one occasions are represented only once in the count of patients with that condition. If a patient sought treatment for more than one condition, that patient is represented in the counts of each condition for which they were diagnosed.

Data presented in Table 3.A.1 should be interpreted as in the following example that is based on data for all Maryland:

Approximately 46 percent or a total of 222,164 Medicare beneficiaries represented in the MCDB who had one or more outpatient physician visit in 1998 were diagnosed with essential hypertension.

Determining Top Emergency Room Diagnoses

The E&M procedure screen was not applicable to emergency room visits. However, in all other respects, the top emergency room diagnoses were identified in a manner comparable to the top outpatient diagnoses. Emergency room visits were identified on the basis of a “place of service” code contained in the MDCB. Counts contained in Tables 3.A.2 include the number of unique patients with one or more emergency room visits for a given condition. Patients with multiple diagnoses were included in each of the counts of the conditions for which they were diagnosed.

Data presented in Table 3.A.2 should be interpreted as in the following example that is based on data for all Maryland:

Approximately 37 percent of Medicare beneficiaries who visited the emergency room at least once in 1998, a total of 52, 737 individuals were diagnosed with respiratory system or chest symptoms.

Caveats

Medicare beneficiaries who are not represented in these estimates include the following: those who may have received outpatient and emergency room services but did not have Part B coverage; beneficiaries who did not meet their deductible and for which a claim was not submitted; and beneficiaries who received care in hospital outpatient departments or other outpatient institutional settings. Additionally, Medicare-eligible residents who opted to participate in a Medicare HMO are not represented in these statistics. Because Medicare eligibility criteria and benefits are standard, the proportion of data that is either missing or unreported, due to factors such as unmet deductible levels or use of non-covered services, is not expected to differ substantially across counties.

**Table 3.A.1: Most Frequent Diagnoses among Maryland Medicare Beneficiaries
with an MCDB Record, by County**

All Maryland			Allegany County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	222,164	46.0	Essential Hypertension	6,262	45.7
Disease of Lipoid Metabolism	131,416	27.2	Disease of Lipoid Metabolism	2,916	21.3
General Symptoms	106,500	22.1	Other Chronic Ischemic Heart Disease	2,888	21.1
Respiratory System/Other Chest Symptoms	102,910	21.3	Diabetes Mellitus	2,679	19.5
Diabetes Mellitus	83,110	17.2	Osteoarthritis	2,536	18.5
Other Chronic Ischemic Heart Disease	82,083	17.0	Respiratory System/Other Chest Symptoms	2,098	15.3
Osteoarthritis	79,190	16.4	General Symptoms	1,931	14.1
Cardiac Dysrhythmias	71,749	14.9	Heart Failure	1,831	13.4
Joint Disorder	54,741	11.3	Cardiac Dysrhythmias	1,650	12.0
Cataract	52,125	10.8	Chronic Airway Obstruction	1,406	10.3
Heart Failure	51,176	10.6	Acute Bronchitis/Bronchiolitis	1,337	9.8
Other Urinary Tract Disorders	51,159	10.6	Acquired Hypothyroidism	1,282	9.4
Other Abdomen/Pelvis Symptoms	49,512	10.3	Other Urinary Tract Disorders	1,265	9.2
Hyperplasia of Prostate	46,822	9.7	Cataract	1,224	8.9
Back Disorder	44,231	9.2	Chronic Bronchitis	1,160	8.5
Anne Arundel County			Baltimore County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	17,407	44.1	Essential Hypertension	41,227	47.2
Disease of Lipoid Metabolism	11,378	28.8	Disease of Lipoid Metabolism	24,681	28.2
General Symptoms	8,999	22.8	General Symptoms	18,903	21.6
Respiratory System/Other Chest Symptoms	8,431	21.3	Respiratory System/Other Chest Symptoms	18,703	21.4
Diabetes Mellitus	6,940	17.6	Other Chronic Ischemic Heart Disease	15,618	17.9
Other Chronic Ischemic Heart Disease	6,407	16.2	Osteoarthritis	15,482	17.7
Osteoarthritis	6,243	15.8	Cardiac Dysrhythmias	14,031	16.1
Cardiac Dysrhythmias	6,031	15.3	Diabetes Mellitus	13,192	15.1
Other Abdomen/Pelvis Symptoms	4,260	10.8	Cataract	10,741	12.3
Joint Disorder	4,244	10.7	Joint Disorder	10,488	12.0
Other Urinary Tract Disorders	4,110	10.4	Heart Failure	9,167	10.5
Hyperplasia of Prostate	4,059	10.3	Hyperplasia of Prostate	9,099	10.4
Heart Failure	4,009	10.2	Other Urinary Tract Disorders	9,052	10.4
Cataract	3,798	9.6	Menopausal Disorders	8,762	10.0
Back Disorder	3,735	9.5	Other Abdomen/Pelvis Symptoms	8,655	9.9

* Includes all Medicare beneficiaries with a 1998 MCDB record and the selected diagnosis; † the denominator includes all Medicare beneficiaries with a 1998 MCDB record and a corresponding E&M code.

Table 3.A.1 (continued): Most Frequent Diagnoses among Maryland Medicare Beneficiaries with an MCDB Record, by County

Baltimore City			Calvert County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	36,482	46.7	Essential Hypertension	2,510	47.1
Respiratory System/Other Chest Symptoms	16,832	21.6	Disease of Lipoid Metabolism	1,161	21.8
Disease of Lipoid Metabolism	16,729	21.4	Respiratory System/Other Chest Symptoms	1,114	20.9
General Symptoms	15,705	20.1	General Symptoms	1,063	20.0
Diabetes Mellitus	14,769	18.9	Other Chronic Ischemic Heart Disease	1,011	19.0
Osteoarthritis	13,404	17.2	Diabetes Mellitus	977	18.3
Cardiac Dysrhythmias	12,128	15.5	Cardiac Dysrhythmias	717	13.5
Other Chronic Ischemic Heart Disease	11,863	15.2	Other Abdomen/Pelvis Symptoms	716	13.4
Joint Disorder	8,970	11.5	Other Urinary Tract Disorders	692	13.0
Heart Failure	8,898	11.4	Osteoarthritis	682	12.8
Other Urinary Tract Disorders	7,914	10.1	Acute Bronchitis/Bronchiolitis	578	10.9
Hypertensive Heart Disease	7,745	9.9	Back Disorder	551	10.4
Cataract	7,690	9.9	Heart Failure	529	9.9
Other Abdomen/Pelvis Symptoms	7,270	9.3	Cataract	510	9.6
Anemia	6,794	8.7	Hyperplasia of Prostate	491	9.2
Caroline County			Carroll County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	1,283	39.0	Essential Hypertension	6,523	44.5
Disease of Lipoid Metabolism	670	20.4	Disease of Lipoid Metabolism	3,826	26.1
Diabetes Mellitus	631	19.2	General Symptoms	2,907	19.8
General Symptoms	563	17.1	Other Chronic Ischemic Heart Disease	2,869	19.6
Respiratory System/Other Chest Symptoms	539	16.4	Respiratory System/Other Chest Symptoms	2,835	19.3
Other Chronic Ischemic Heart Disease	493	15.0	Osteoarthritis	2,454	16.7
Osteoarthritis	432	13.1	Diabetes Mellitus	2,337	15.9
Cataract	391	11.9	Cardiac Dysrhythmias	2,336	15.9
Cardiac Dysrhythmias	370	11.3	Other Urinary Tract Disorders	1,810	12.4
Diseases of the Esophagus	350	10.6	Hypertensive Heart Disease	1,615	11.0
Heart Failure	345	10.5	Hyperplasia of Prostate	1,576	10.8
Back Disorder	280	8.5	Acute Bronchitis/Bronchiolitis	1,554	10.6
Joint Disorder	275	8.4	Heart Failure	1,508	10.3
Acute Bronchitis/Bronchiolitis	274	8.3	Other Abdomen/Pelvis Symptoms	1,420	9.7
Other Abdomen/Pelvis Symptoms	274	8.3	Cataract	1,348	9.2

* Includes all Medicare beneficiaries with a 1998 MCDB record and the selected diagnosis; † the denominator includes all Medicare beneficiaries with a 1998 MCDB record and a corresponding E&M code.

**Table 3.A.1 (continued): Most Frequent Diagnoses among Maryland Medicare Beneficiaries
with an MCDB Record, by County**

Cecil County			Charles County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	3,021	43.0	Essential Hypertension	3,759	50.6
Disease of Lipoid Metabolism	1,803	25.7	Disease of Lipoid Metabolism	2,152	29.0
General Symptoms	1,303	18.6	Respiratory System/Other Chest Symptoms	1,725	23.2
Respiratory System/Other Chest Symptoms	1,294	18.4	General Symptoms	1,653	22.3
Diabetes Mellitus	1,229	17.5	Diabetes Mellitus	1,505	20.3
Other Chronic Ischemic Heart Disease	1,207	17.2	Other Chronic Ischemic Heart Disease	1,395	18.8
Osteoarthritis	1,006	14.3	Cataract	1,316	17.7
Cardiac Dysrhythmias	941	13.4	Osteoarthritis	1,032	13.9
Acute Bronchitis/Bronchiolitis	896	12.8	Cardiac Dysrhythmias	1,022	13.8
Heart Failure	809	11.5	Other Abdomen/Pelvis Symptoms	982	13.2
Other Urinary Tract Disorders	675	9.6	Other Urinary Tract Disorders	904	12.2
Diseases of the Esophagus	645	9.2	Acute Bronchitis/Bronchiolitis	790	10.6
Other Abdomen/Pelvis Symptoms	614	8.8	Heart Failure	758	10.2
Cataract	612	8.7	Gastrointestinal System Symptoms	721	9.7
Acute Sinusitis	600	8.6	Chronic Airway Obstruction	713	9.6
Dorchester County			Frederick County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	2,247	52.5	Essential Hypertension	6,685	44.6
Disease of Lipoid Metabolism	1,007	23.5	Disease of Lipoid Metabolism	4,098	27.3
Diabetes Mellitus	803	18.8	Respiratory System/Other Chest Symptoms	3,304	22.0
Hypertensive Heart Disease	740	17.3	General Symptoms	2,946	19.6
General Symptoms	738	17.3	Osteoarthritis	2,722	18.2
Other Chronic Ischemic Heart Disease	698	16.3	Diabetes Mellitus	2,684	17.9
Respiratory System/Other Chest Symptoms	675	15.8	Other Chronic Ischemic Heart Disease	2,579	17.2
Heart Failure	621	14.5	Cardiac Dysrhythmias	2,149	14.3
Osteoarthritis	577	13.5	Other Urinary Tract Disorders	2,039	13.6
Cardiac Dysrhythmias	576	13.5	Other Abdomen/Pelvis Symptoms	1,540	10.3
Cataract	444	10.4	Acute Bronchitis/Bronchiolitis	1,527	10.2
Other Urinary Tract Disorders	408	9.5	Heart Failure	1,499	10.0
Other Abdomen/Pelvis Symptoms	405	9.5	Cataract	1,420	9.5
Gastrointestinal System Symptoms	391	9.1	Diseases of the Esophagus	1,411	9.4
Acute Bronchitis/Bronchiolitis	386	9.0	Hyperplasia of Prostate	1,407	9.4

* Includes all Medicare beneficiaries with a 1998 MCDB record and the selected diagnosis; † the denominator includes all Medicare beneficiaries with a 1998 MCDB record and a corresponding E&M code.

**Table 3.A.1 (continued): Most Frequent Diagnoses among Maryland Medicare Beneficiaries
with an MCDB Record, by County**

Garrett County			Harford County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	1,565	41.0	Essential Hypertension	7,355	44.9
Diabetes Mellitus	764	20.0	Disease of Lipoid Metabolism	4,396	26.9
General Symptoms	746	19.5	General Symptoms	3,970	24.3
Disease of Lipoid Metabolism	723	18.9	Respiratory System/Other Chest Symptoms	3,825	23.4
Other Chronic Ischemic Heart Disease	688	18.0	Other Chronic Ischemic Heart Disease	3,504	21.4
Other Abdomen/Pelvis Symptoms	681	17.8	Diabetes Mellitus	2,723	16.6
Respiratory System/Other Chest Symptoms	615	16.1	Cardiac Dysrhythmias	2,693	16.5
Osteoarthritis	573	15.0	Osteoarthritis	2,558	15.6
Acute Bronchitis/Bronchiolitis	520	13.6	Joint Disorder	1,993	12.2
Heart Failure	510	13.4	Hyperplasia of Prostate	1,916	11.7
Cardiac Dysrhythmias	425	11.1	Other Abdomen/Pelvis Symptoms	1,808	11.0
Acute Sinusitis	393	10.3	Heart Failure	1,715	10.5
Joint Disorder	368	9.6	Back Disorder	1,710	10.5
Hyperplasia of Prostate	347	9.1	Other Urinary Tract Disorders	1,666	10.2
Back Disorder	345	9.0	Gastrointestinal System Symptoms	1,622	9.9
Howard County			Kent County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	4,980	46.2	Essential Hypertension	1,695	49.3
Disease of Lipoid Metabolism	3,358	31.1	Disease of Lipoid Metabolism	1,110	32.3
General Symptoms	2,933	27.2	General Symptoms	659	19.2
Respiratory System/Other Chest Symptoms	2,421	22.4	Diabetes Mellitus	585	17.0
Osteoarthritis	1,701	15.8	Respiratory System/Other Chest Symptoms	566	16.5
Diabetes Mellitus	1,571	14.6	Osteoarthritis	528	15.4
Cardiac Dysrhythmias	1,533	14.2	Other Chronic Ischemic Heart Disease	508	14.8
Other Chronic Ischemic Heart Disease	1,519	14.1	Cardiac Dysrhythmias	489	14.2
Cataract	1,515	14.0	Heart Failure	365	10.6
Joint Disorder	1,491	13.8	Cataract	360	10.5
Other Urinary Tract Disorders	1,231	11.4	Acute Bronchitis/Bronchiolitis	351	10.2
Hyperplasia of Prostate	1,200	11.1	Back Disorder	350	10.2
Other Abdomen/Pelvis Symptoms	1,137	10.5	Other Urinary Tract Disorders	338	9.8
Back Disorder	1,101	10.2	Hyperplasia of Prostate	313	9.1
Skin/Other Integument Symptoms	1,094	10.1	Skin/Other Integument Symptoms	310	9.0

* Includes all Medicare beneficiaries with a 1998 MCDB record and the selected diagnosis; † the denominator includes all Medicare beneficiaries with a 1998 MCDB record and a corresponding E&M code.

**Table 3.A.1 (continued): Most Frequent Diagnoses among Maryland Medicare Beneficiaries
with an MCDB Record, by County**

Montgomery County			Prince George's County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	32,944	44.1	Essential Hypertension	22,357	48.5
Disease of Lipoid Metabolism	24,820	33.3	Disease of Lipoid Metabolism	13,509	29.3
General Symptoms	20,639	27.7	General Symptoms	10,893	23.6
Respiratory System/Other Chest Symptoms	17,921	24.0	Respiratory System/Other Chest Symptoms	10,308	22.3
Osteoarthritis	12,560	16.8	Diabetes Mellitus	9,757	21.1
Other Chronic Ischemic Heart Disease	11,850	15.9	Other Chronic Ischemic Heart Disease	8,179	17.7
Cardiac Dysrhythmias	11,552	15.5	Osteoarthritis	7,079	15.3
Joint Disorder	11,314	15.2	Cardiac Dysrhythmias	6,476	14.0
Diabetes Mellitus	10,463	14.0	Cataract	5,513	12.0
Hyperplasia of Prostate	9,122	12.2	Other Urinary Tract Disorders	5,451	11.8
Cataract	8,694	11.7	Heart Failure	5,402	11.7
Other Abdomen/Pelvis Symptoms	8,633	11.6	Joint Disorder	5,236	11.4
Skin/Other Integument Symptoms	8,542	11.4	Other Abdomen/Pelvis Symptoms	5,193	11.3
Other Urinary Tract Disorders	8,381	11.2	Anemia	4,948	10.7
Other Dermatoses	8,235	11.0	Other Soft Tissue Disorders	4,387	9.5
Queen Anne's County			Somerset County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	1,472	41.9	Essential Hypertension	1,484	48.4
Disease of Lipoid Metabolism	851	24.2	Diabetes Mellitus	618	20.2
General Symptoms	704	20.0	Disease of Lipoid Metabolism	577	18.8
Respiratory System/Other Chest Symptoms	634	18.0	General Symptoms	568	18.5
Diabetes Mellitus	604	17.2	Respiratory System/Other Chest Symptoms	535	17.5
Osteoarthritis	549	15.6	Other Chronic Ischemic Heart Disease	474	15.5
Other Chronic Ischemic Heart Disease	542	15.4	Heart Failure	430	14.0
Cardiac Dysrhythmias	461	13.1	Cardiac Dysrhythmias	376	12.3
Heart Failure	395	11.2	Osteoarthritis	346	11.3
Cataract	363	10.3	Angina Pectoris	329	10.7
Other Urinary Tract Disorders	350	10.0	Chronic Airway Obstruction	297	9.7
Hyperplasia of Prostate	345	9.8	Other Urinary Tract Disorders	286	9.3
Skin/Other Integument Symptoms	342	9.7	Gastrointestinal System Symptoms	241	7.9
Back Disorder	324	9.2	Back Disorder	233	7.6
Acute Bronchitis/Bronchiolitis	317	9.0	Other Abdomen/Pelvis Symptoms	231	7.5

* Includes all Medicare beneficiaries with a 1998 MCDB record and the selected diagnosis; † the denominator includes all Medicare beneficiaries with a 1998 MCDB record and a corresponding E&M code.

**Table 3.A.1 (continued): Most Frequent Diagnoses among Maryland Medicare Beneficiaries
with an MCDB Record, by County**

St. Mary's County			Talbot County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	3,211	50.0	Essential Hypertension	2,446	45.0
Disease of Lipoid Metabolism	1,966	30.6	Disease of Lipoid Metabolism	1,303	24.0
General Symptoms	1,759	27.4	General Symptoms	1,121	20.6
Respiratory System/Other Chest Symptoms	1,659	25.9	Respiratory System/Other Chest Symptoms	950	17.5
Other Chronic Ischemic Heart Disease	1,462	22.8	Cataract	794	14.6
Diabetes Mellitus	1,361	21.2	Diabetes Mellitus	783	14.4
Osteoarthritis	1,101	17.2	Osteoarthritis	760	14.0
Cardiac Dysrhythmias	912	14.2	Other Chronic Ischemic Heart Disease	750	13.8
Arthropathies	830	12.9	Cardiac Dysrhythmias	702	12.9
Other Abdomen/Pelvis Symptoms	811	12.6	Hyperplasia of Prostate	673	12.4
Chronic Airway Obstruction	792	12.3	Diseases of the Esophagus	649	11.9
Other Urinary Tract Disorders	780	12.2	Heart Failure	563	10.4
Joint Disorder	779	12.1	Other Dermatoses	537	9.9
Cataract	750	11.7	Back Disorder	491	9.0
Acute Bronchitis/Bronchiolitis	739	11.5	Glaucoma	486	8.9
Washington County			Wicomico County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	7,114	42.6	Essential Hypertension	4,388	48.8
Disease of Lipoid Metabolism	3,992	23.9	Disease of Lipoid Metabolism	2,296	25.5
Diabetes Mellitus	3,118	18.7	General Symptoms	1,861	20.7
Other Chronic Ischemic Heart Disease	3,011	18.1	Respiratory System/Other Chest Symptoms	1,849	20.5
Osteoarthritis	2,566	15.4	Diabetes Mellitus	1,660	18.4
Respiratory System/Other Chest Symptoms	2,518	15.1	Other Chronic Ischemic Heart Disease	1,320	14.7
General Symptoms	2,442	14.6	Osteoarthritis	1,270	14.1
Cardiac Dysrhythmias	1,940	11.6	Angina Pectoris	1,166	13.0
Hyperplasia of Prostate	1,752	10.5	Heart Failure	1,143	12.7
Heart Failure	1,679	10.1	Cardiac Dysrhythmias	1,142	12.7
Acute Bronchitis/Bronchiolitis	1,496	9.0	Chronic Airway Obstruction	800	8.9
Hypertensive Heart Disease	1,489	8.9	Diseases of the Esophagus	782	8.7
Cataract	1,473	8.8	Gastrointestinal System Symptoms	775	8.6
Other Urinary Tract Disorders	1,453	8.7	Other Dermatoses	771	8.6
Other Abdomen/Pelvis Symptoms	1,374	8.2	Joint Disorder	749	8.3

* Includes all Medicare beneficiaries with a 1998 MCDB record and the selected diagnosis; † the denominator includes all Medicare beneficiaries with a 1998 MCDB record and a corresponding E&M code.

Table 3.A.1 (continued): Most Frequent Diagnoses among Maryland Medicare Beneficiaries with an MCDB Record, by County

Worcester County		
Diagnosis	Number of Patients*	Percent of Total†
Essential Hypertension	3,664	47.1
Disease of Lipoid Metabolism	2,041	26.2
Respiratory System/Other Chest Symptoms	1,511	19.4
General Symptoms	1,441	18.5
Diabetes Mellitus	1,311	16.9
Other Chronic Ischemic Heart Disease	1,211	15.6
Cardiac Dysrhythmias	1,067	13.7
Osteoarthritis	985	12.7
Angina Pectoris	977	12.6
Other Dermatoses	870	11.2
Heart Failure	827	10.6
Diseases of the Esophagus	655	8.4
Joint Disorder	655	8.4
Hyperplasia of Prostate	641	8.2
Other Urinary Tract Disorders	632	8.1

* Includes all Medicare beneficiaries with a 1998 MCDB record and the selected diagnosis; † the denominator includes all Medicare beneficiaries with a 1998 MCDB record and a corresponding E&M code.

**Table 3.A.2: Most Frequent Emergency Room Diagnoses among Maryland Medicare Beneficiaries
with an MCDB Record, by County**

All Maryland			Allegany County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	52,737	37.1	Respiratory System/Other Chest Symptoms	2,091	41.6
General Symptoms	32,751	23.0	General Symptoms	644	12.8
Other Abdomen/Pelvis Symptoms	17,317	12.2	Joint Disorder	597	11.9
Cardiac Dysrhythmias	14,068	9.9	Other Abdomen/Pelvis Symptoms	596	11.9
Other or Unspecified Injury	13,201	9.3	Cardiac Dysrhythmias	561	11.2
Other Lung Diseases	12,082	8.5	Other or Unspecified Injury	408	8.1
Heart Failure	12,014	8.5	Other Urinary Tract Disorder	358	7.1
Disorders of Fluid, Electrolyte, and Acid-Base Balance	11,671	8.2	Heart Failure	346	6.9
Joint Disorder	11,550	8.1	Other Cerebrovascular Disease	344	6.8
Gastrointestinal System Symptoms	11,422	8.0	Disorders of Fluid, Electrolyte, and Acid-Base Balance	301	6.0
Essential Hypertension	9,889	7.0	Chronic Airway Obstruction	293	5.8
Pneumonia, Organism Unspecified	9,282	6.5	Acute Bronchitis/Bronchiolitis	264	5.3
Ill-Defined Heart Disease	9,151	6.4	Other Lung Diseases	250	5.0
Other Urinary Tract Disorder	9,101	6.4	Pneumonia, Organism Unspecified	248	4.9
Symptoms Involving the Head and Neck	8,149	5.7	Back Disorder	218	4.3
Anne Arundel County			Baltimore County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	5,424	48.6	Respiratory System/Other Chest Symptoms	8,217	33.8
General Symptoms	3,232	29.0	General Symptoms	5,576	22.9
Other Abdomen/Pelvis Symptoms	1,600	14.3	Other Abdomen/Pelvis Symptoms	2,815	11.6
Gastrointestinal System Symptoms	1,340	12.0	Other or Unspecified Injury	2,786	11.5
Ill-Defined Heart Disease	1,244	11.1	Cardiac Dysrhythmias	2,460	10.1
Joint Disorder	1,146	10.3	Other Lung Diseases	2,342	9.6
Other Lung Diseases	1,071	9.6	Ill-Defined Heart Disease	2,233	9.2
Cardiac Dysrhythmias	1,046	9.4	Heart Failure	1,957	8.0
Other or Unspecified Injury	1,012	9.1	Joint Disorder	1,908	7.8
Heart Failure	975	8.7	Gastrointestinal System Symptoms	1,732	7.1
Disorders of Fluid, Electrolyte, and Acid-Base Balance	835	7.5	Disorders of Fluid, Electrolyte, and Acid-Base Balance	1,725	7.1
Other Soft Tissue Disorders	811	7.3	Pneumonia, Organism Unspecified	1,481	6.1
Chronic Airway Obstruction	803	7.2	Other Urinary Tract Disorder	1,368	5.6
Symptoms Involving the Head and Neck	776	7.0	Symptoms Involving the Head and Neck	1,318	5.4
Pneumonia, Organism Unspecified	700	6.3	Other Soft Tissue Disorders	1,297	5.3

* Includes all Medicare beneficiaries in the county with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all Medicare beneficiaries in the county with a 1998 MCDB record corresponding to an emergency room visit.

Table 3.A.2 (continued): Most Frequent Emergency Room Diagnoses among Maryland Medicare Beneficiaries with an MCDB Record, by County

Baltimore City			Calvert County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	9,989	35.3	Respiratory System/Other Chest Symptoms	574	34.1
General Symptoms	5,934	21.0	General Symptoms	384	22.8
Cardiac Dysrhythmias	3,721	13.2	Other Abdomen/Pelvis Symptoms	235	13.9
Other Abdomen/Pelvis Symptoms	3,396	12.0	Chronic Airway Obstruction	216	12.8
Other Lung Diseases	3,315	11.7	Essential Hypertension	200	11.9
Other or Unspecified Injury	3,070	10.9	Diabetes Mellitus	191	11.3
Disorders of Fluid, Electrolyte, and Acid-Base Balance	2,487	8.8	Cardiac Dysrhythmias	172	10.2
Heart Failure	2,439	8.6	Gastrointestinal System Symptoms	155	9.2
Ill-Defined Heart Disease	2,388	8.4	Heart Failure	153	9.1
Joint Disorder	2,230	7.9	Other or Unspecified Injury	132	7.8
Essential Hypertension	2,101	7.4	Other Chronic Ischemic Heart Disease	126	7.5
Pneumonia, Organism Unspecified	2,020	7.1	Other Urinary Tract Disorder	125	7.4
Other Urinary Tract Disorder	1,913	6.8	Disorders of Fluid, Electrolyte, and Acid-Base Balance	124	7.4
Other Soft Tissue Disorders	1,828	6.5	Ill-Defined Heart Disease	111	6.6
Gastrointestinal System Symptoms	1,805	6.4	Other Lung Diseases	104	6.2
Caroline County			Carroll County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	390	40.3	Respiratory System/Other Chest Symptoms	1,518	36.9
General Symptoms	273	28.2	General Symptoms	1,065	25.9
Chronic Pulmonary Heart Disease	165	17.1	Other Abdomen/Pelvis Symptoms	501	12.2
Other Abdomen/Pelvis Symptoms	133	13.8	Other Lung Diseases	461	11.2
Cardiac Dysrhythmias	117	12.1	Heart Failure	384	9.3
Heart Failure	110	11.4	Cardiac Dysrhythmias	373	9.1
Other Soft Tissue Disorders	90	9.3	Other Urinary Tract Disorder	350	8.5
Other Lung Diseases	84	8.7	Disorders of Fluid, Electrolyte, and Acid-Base Balance	347	8.4
Joint Disorder	78	8.1	Gastrointestinal System Symptoms	338	8.2
Pneumonia, Organism Unspecified	77	8.0	Pneumonia, Organism Unspecified	330	8.0
Disorders of Fluid, Electrolyte, and Acid-Base Balance	75	7.8	Other or Unspecified Injury	313	7.6
Other or Unspecified Injury	71	7.3	Chronic Airway Obstruction	309	7.5
Other Urinary Tract Disorder	59	6.1	Joint Disorder	286	7.0
Diabetes Mellitus	53	5.5	Essential Hypertension	266	6.5
Gastrointestinal System Symptoms	53	5.5	Ill-Defined Heart Disease	249	6.1

* Includes all Medicare beneficiaries in the county with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all Medicare beneficiaries in the county with a 1998 MCDB record corresponding to an emergency room visit.

Table 3.A.2 (continued): Most Frequent Emergency Room Diagnoses among Maryland Medicare Beneficiaries with an MCDB Record, by County

Cecil County			Charles County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	798	40.9	Respiratory System/Other Chest Symptoms	837	35.8
General Symptoms	507	26.0	General Symptoms	567	24.2
Other Abdomen/Pelvis Symptoms	245	12.6	Other Abdomen/Pelvis Symptoms	286	12.2
Other or Unspecified Injury	214	11.0	Other or Unspecified Injury	259	11.1
Gastrointestinal System Symptoms	205	10.5	Ill-Defined Heart Disease	247	10.6
Pneumonia, Organism Unspecified	174	8.9	Heart Failure	230	9.8
Chronic Airway Obstruction	161	8.3	Chronic Airway Obstruction	218	9.3
Heart Failure	150	7.7	Disorders of Fluid, Electrolyte, and Acid-Base Balance	216	9.2
Joint Disorder	139	7.1	Gastrointestinal System Symptoms	208	8.9
Cardiac Dysrhythmias	135	6.9	Other Lung Diseases	200	8.6
Disorders of Fluid, Electrolyte, and Acid-Base Balance	132	6.8	Other Urinary Tract Disorder	175	7.5
Symptoms Involving the Head and Neck	129	6.6	Essential Hypertension	169	7.2
Ill-Defined Heart Disease	121	6.2	Diabetes Mellitus	167	7.1
Other Urinary Tract Disorder	118	6.1	Symptoms Involving the Head and Neck	145	6.2
Other Soft Tissue Disorders	117	6.0	Cardiac Dysrhythmias	131	5.6
Dorchester County			Frederick County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	398	29.4	Respiratory System/Other Chest Symptoms	1,565	38.3
General Symptoms	194	14.4	General Symptoms	1,078	26.3
Cardiac Dysrhythmias	144	10.7	Other Abdomen/Pelvis Symptoms	572	14.0
Other Abdomen/Pelvis Symptoms	141	10.4	Gastrointestinal System Symptoms	483	11.8
Other Urinary Tract Disorder	135	10.0	Joint Disorder	437	10.7
Other or Unspecified Injury	123	9.1	Other Lung Diseases	396	9.7
Heart Failure	121	9.0	Heart Failure	319	7.8
Disorders of Fluid, Electrolyte, and Acid-Base Balance	119	8.8	Symptoms Involving the Head and Neck	301	7.4
Essential Hypertension	112	8.3	Ill-Defined Heart Disease	298	7.3
Diabetes Mellitus	91	6.7	Disorders of Fluid, Electrolyte, and Acid-Base Balance	255	6.2
Pneumonia, Organism Unspecified	73	5.4	Pneumonia, Organism Unspecified	238	5.8
Joint Disorder	70	5.2	Other Urinary Tract Disorder	225	5.5
Other Acute Ischemic Heart Disease	59	4.4	Cardiac Dysrhythmias	222	5.4
Hypertensive Heart Disease	58	4.3	Skin/Other Integument Symptoms	218	5.3
Chronic Airway Obstruction	58	4.3	Other Bone and Cartilage Disorders	214	5.2

* Includes all Medicare beneficiaries in the county with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all Medicare beneficiaries in the county with a 1998 MCDB record corresponding to an emergency room visit.

Table 3.A.2 (continued): Most Frequent Emergency Room Diagnoses among Maryland Medicare Beneficiaries with an MCDB Record, by County

Garrett County			Harford County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	444	30.3	Respiratory System/Other Chest Symptoms	2,184	47.1
General Symptoms	238	16.2	General Symptoms	1,675	36.1
Other or Unspecified Injury	193	13.2	Other Abdomen/Pelvis Symptoms	765	16.5
Other Abdomen/Pelvis Symptoms	189	12.9	Gastrointestinal System Symptoms	764	16.5
Joint Disorder	129	8.8	Other or Unspecified Injury	674	14.5
Heart Failure	113	7.7	Joint Disorder	620	13.4
Pneumonia, Organism Unspecified	109	7.4	Cardiac Dysrhythmias	572	12.3
Cardiac Dysrhythmias	94	6.4	Other Soft Tissue Disorders	555	12.0
Angina Pectoris	85	5.8	Heart Failure	545	11.8
Other Urinary Tract Disorder	81	5.5	Symptoms Involving the Head and Neck	475	10.2
Disorders of Fluid, Electrolyte, and Acid-Base Balance	80	5.5	Other Lung Diseases	406	8.8
Chronic Airway Obstruction	79	5.4	Pneumonia, Organism Unspecified	401	8.6
Gastrointestinal System Symptoms	73	5.0	Back Disorder	395	8.5
Contusion of the Leg and Other Unspecified Sites	72	4.9	Disorders of Fluid, Electrolyte, and Acid-Base Balance	349	7.5
Acute Bronchitis/Bronchiolitis	67	4.6	Skin/Other Integument Symptoms	316	6.8
Howard County			Kent County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	1,198	41.8	Respiratory System/Other Chest Symptoms	318	36.5
General Symptoms	913	31.9	General Symptoms	156	17.9
Other or Unspecified Injury	439	15.3	Other Abdomen/Pelvis Symptoms	117	13.4
Other Abdomen/Pelvis Symptoms	403	14.1	Essential Hypertension	113	13.0
Gastrointestinal System Symptoms	401	14.0	Other or Unspecified Injury	108	12.4
Joint Disorder	388	13.6	Cardiac Dysrhythmias	104	11.9
Cardiac Dysrhythmias	293	10.2	Disorders of Fluid, Electrolyte, and Acid-Base Balance	100	11.5
Other Soft Tissue Disorders	282	9.9	Ill-Defined Heart Disease	97	11.1
Other Lung Diseases	265	9.3	Other Lung Diseases	96	11.0
Symptoms Involving the Head and Neck	246	8.6	Heart Failure	95	10.9
Heart Failure	221	7.7	Chronic Airway Obstruction	83	9.5
Pneumonia, Organism Unspecified	190	6.6	Diabetes Mellitus	76	8.7
Skin/Other Integument Symptoms	183	6.4	Other Urinary Tract Disorder	61	7.0
Disorders of Fluid, Electrolyte, and Acid-Base Balance	182	6.4	Chronic Bronchitis*	59	6.8
Back Disorder	169	5.9	Pneumonia, Organism Unspecified	56	6.4

* Includes all Medicare beneficiaries in the county with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all Medicare beneficiaries in the county with a 1998 MCDB record corresponding to an emergency room visit.

Table 3.A.2 (continued): Most Frequent Emergency Room Diagnoses among Maryland Medicare Beneficiaries with an MCDB Record, by County

Montgomery County			Prince George's County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	7,001	37.3	Respiratory System/Other Chest Symptoms	4,481	33.2
General Symptoms	3,961	21.1	General Symptoms	3,379	25.1
Other Abdomen/Pelvis Symptoms	1,960	10.5	Other Abdomen/Pelvis Symptoms	1,509	11.2
Disorders of Fluid, Electrolyte, and Acid-Base Balance	1,675	8.9	Disorders of Fluid, Electrolyte, and Acid-Base Balance	1,505	11.2
Cardiac Dysrhythmias	1,573	8.4	Essential Hypertension	1,470	10.9
Gastrointestinal System Symptoms	1,395	7.4	Heart Failure	1,212	9.0
Joint Disorder	1,285	6.9	Gastrointestinal System Symptoms	1,179	8.7
Heart Failure	1,262	6.7	Joint Disorder	1,041	7.7
Other or Unspecified Injury	1,198	6.4	Other Urinary Tract Disorder	1,029	7.6
Other Urinary Tract Disorder	1,158	6.2	Other or Unspecified Injury	1,027	7.6
Pneumonia, Organism Unspecified	1,137	6.1	Diabetes Mellitus	1,008	7.5
Essential Hypertension	1,132	6.0	Cardiac Dysrhythmias	966	7.2
Other Lung Diseases	1,081	5.8	Symptoms Involving the Head and Neck	939	7.0
Other Open Wound of the Head	867	4.6	Other Soft Tissue Disorders	841	6.2
Symptoms Involving the Head and Neck	865	4.6	Pneumonia, Organism Unspecified	811	6.0
Queen Anne's County			Somerset County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	466	48.9	Respiratory System/Other Chest Symptoms	361	34.7
General Symptoms	249	26.1	General Symptoms	211	20.3
Cardiac Dysrhythmias	132	13.8	Essential Hypertension	182	17.5
Other Abdomen/Pelvis Symptoms	132	13.8	Heart Failure	153	14.7
Heart Failure	120	12.6	Other Abdomen/Pelvis Symptoms	148	14.2
Chronic Pulmonary Heart Disease	112	11.7	Diabetes Mellitus	131	12.6
Other Lung Diseases	90	9.4	Other Lung Diseases	125	12.0
Disorders of Fluid, Electrolyte, and Acid-Base Balance	86	9.0	Ill-Defined Heart Disease	119	11.4
Other Urinary Tract Disorder	75	7.9	Disorders of Fluid, Electrolyte, and Acid-Base Balance	118	11.4
Diabetes Mellitus	69	7.2	Chronic Airway Obstruction	105	10.1
Joint Disorder	69	7.2	Other Urinary Tract Disorder	103	9.9
Other or Unspecified Injury	68	7.1	Pneumonia, Organism Unspecified	96	9.2
Essential Hypertension	66	6.9	Cardiac Dysrhythmias	93	8.9
Pneumonia, Organism Unspecified	66	6.9	Gastrointestinal System Symptoms	84	8.1
Gastrointestinal System Symptoms	66	6.9	Joint Disorder	75	7.2

* Includes all Medicare beneficiaries in the county with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all Medicare beneficiaries in the county with a 1998 MCDB record corresponding to an emergency room visit.

Table 3.A.2 (continued): Most Frequent Emergency Room Diagnoses among Maryland Medicare Beneficiaries with an MCDB Record, by County

St. Mary's County			Talbot County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	655	33.6	Respiratory System/Other Chest Symptoms	634	39.1
General Symptoms	403	20.7	General Symptoms	459	28.3
Other Abdomen/Pelvis Symptoms	267	13.7	Chronic Pulmonary Heart Disease	323	19.9
Other Lung Diseases	258	13.2	Other Abdomen/Pelvis Symptoms	225	13.9
Essential Hypertension	247	12.7	Cardiac Dysrhythmias	214	13.2
Ill-Defined Heart Disease	229	11.7	Heart Failure	169	10.4
Diabetes Mellitus	220	11.3	Other Soft Tissue Disorders	147	9.1
Chronic Airway Obstruction	202	10.4	Other or Unspecified Injury	131	8.1
Heart Failure	200	10.3	Gastrointestinal System Symptoms	125	7.7
Other or Unspecified Injury	176	9.0	Angina Pectoris	116	7.2
Other Urinary Tract Disorder	164	8.4	Symptoms Involving the Head and Neck	108	6.7
Cardiac Dysrhythmias	163	8.4	Pneumonia, Organism Unspecified	97	6.0
Disorders of Fluid, Electrolyte, and Acid-Base Balance	161	8.3	Other Urinary Tract Disorder	96	5.9
Gastrointestinal System Symptoms	158	8.1	Other Lung Diseases	95	5.9
Joint Disorder	128	6.6	Disorders of Fluid, Electrolyte, and Acid-Base Balance	92	5.7
Washington County			Wicomico County		
Diagnosis	Number of Patients*	Percent of Total†	Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	1,520	33.1	Respiratory System/Other Chest Symptoms	1,027	39.8
Essential Hypertension	651	14.2	General Symptoms	621	24.0
General Symptoms	644	14.0	Other Abdomen/Pelvis Symptoms	345	13.4
Other Abdomen/Pelvis Symptoms	499	10.9	Other or Unspecified Injury	326	12.6
Joint Disorder	408	8.9	Pneumonia, Organism Unspecified	247	9.6
Cardiac Dysrhythmias	399	8.7	Heart Failure	240	9.3
Heart Failure	312	6.8	Disorders of Fluid, Electrolyte, and Acid-Base Balance	231	8.9
Disorders of Fluid, Electrolyte, and Acid-Base Balance	309	6.7	Essential Hypertension	221	8.6
Diabetes Mellitus	295	6.4	Diabetes Mellitus	217	8.4
Pneumonia, Organism Unspecified	276	6.0	Gastrointestinal System Symptoms	210	8.1
Gastrointestinal System Symptoms	241	5.3	Cardiac Dysrhythmias	205	7.9
Other Urinary Tract Disorder	227	4.9	Chronic Airway Obstruction	172	6.7
Cerebral Degeneration	206	4.5	Other Lung Diseases	167	6.5
Back Disorder	187	4.1	Other Urinary Tract Disorder	151	5.9
Other Acute Ischemic Heart Disease	186	4.1	Symptoms Involving the Head and Neck	149	5.8

* Includes all Medicare beneficiaries in the county with a 1998 MCDB record and the selected emergency room diagnosis; † the denominator includes all Medicare beneficiaries in the county with a 1998 MCDB record corresponding to an emergency room visit.

Table 3.A.2 (continued): Most Frequent Emergency Room Diagnoses among Maryland Medicare Beneficiaries with an MCDB Record, by County

Worcester County		
Diagnosis	Number of Patients*	Percent of Total†
Respiratory System/Other Chest Symptoms	624	31.6
General Symptoms	374	18.9
Other Abdomen/Pelvis Symptoms	230	11.6
Other or Unspecified Injury	225	11.4
Heart Failure	181	9.2
Cardiac Dysrhythmias	172	8.7
Essential Hypertension	168	8.5
Disorders of Fluid, Electrolyte, and Acid-Base Balance	163	8.2
Pneumonia, Organism Unspecified	139	7.0
Other Lung Diseases	132	6.7
Diabetes Mellitus	129	6.5
Gastrointestinal System Symptoms	126	6.4
Other Urinary Tract Disorder	111	5.6
Other Soft Tissue Disorders	106	5.4
Chronic Airway Obstruction	100	5.1

* Includes all Medicare beneficiaries in the county with a 1998 MCDB record and the selected emergency room diagnosis;

† the denominator includes all Medicare beneficiaries in the county with a 1998 MCDB record corresponding to an emergency room visit.

B. Receipt of Preventive Services among Medicare Aged and Disabled Beneficiaries in the State

Organization of Tables

Rates of receipt of mammograms, Pap smears, influenza vaccines, and pneumonia vaccines were estimated for Medicare aged and disabled beneficiaries with an MCDB record. Mammogram counts and rates are reported in Table 3.B.1. County rankings on this measure are listed in Table 3.B.2. County-level Pap smear rates are presented in Table 3.B.3 and corresponding rankings are provided in Table 3.B.4. Rates of receipt of influenza vaccines and county rankings on this measure are reported in Tables 3.B.5 and 3.B.6, respectively. Tables 3.B.7 and 3.B.8 provide county-level rates of receipt of pneumonia vaccines and corresponding county rankings.

Approach for Estimating Preventive Service Rates and Related Caveats

The approach for determining whether mammograms, Pap Smears, influenza vaccines or pneumonia vaccines were administered is discussed in detail in the Appendix. Although estimates of the number of Medicare Beneficiaries who received these preventive services may deviate from the actual number for reasons discussed earlier in this report (refer to discussions in sections 1 and 2.B), the discrepancy is expected to vary substantially less in the Medicare than in the privately insured population. This is due to the fact that all of the services considered in this section are covered under Medicare Part B and deductibles for these services are waived.

The population base or denominator from which preventive service use rates were calculated was estimated from:

- (1) the total number of Medicare recipients in the MCDB, and
- (2) Medicare enrollment figures reported in the 1998 Health Care Financing Administration State and County Enrollment Figures.

Health statistics computed using only the Medicare beneficiaries represented in the MCDB are likely to overstate actual rates since Medicare beneficiaries who did not seek medical care are excluded from the denominator. Health statistics computed with total county Medicare enrollment as the denominator are apt to slightly understate the actual rate since residents that are counted in the denominator may be omitted from the numerator even if they received the service¹¹. As shown in Tables 3.B.1 through 3.B.8, however, the difference in the rates computed using these alternative specifications is generally smaller than comparable rates computed for the privately insured population (refer to section 2.B). This indicates that a greater proportion of

¹¹ This would occur, for example, if services were obtained from a hospital outpatient department or other outpatient institutional provider, or if a claim for the service was never submitted.

Medicare beneficiaries as compared to privately insured individuals who reside in the state are represented in the MCDB, which is not surprising given that older populations are more likely to use health services than younger populations.

Table 3.B.1: Percent of Women with Medicare Coverage who Received a Mammogram, by County and Eligibility Category, Estimates from the 1998 Maryland MCDB

County	Number of Women who Received a Mammogram*			Percent of Women who Received a Mammogram			
	Disabled	Aged	Total	Disabled (MCDB) †	Aged (MCDB) †	Total (MCDB)†	Total (County)‡
Allegany	166	3,085	3,251	33.8	39.9	39.6	39.7
Anne Arundel	379	7,687	8,066	22.2	35.3	34.3	31.2
Baltimore	829	19,074	19,903	25.4	38.1	37.3	33.8
Baltimore City	1,444	14,472	15,916	26.7	33.2	32.5	30.9
Calvert	78	1,079	1,157	32.9	37.4	37.1	34.7
Caroline	53	563	616	28.3	32.0	31.7	27.8
Carroll	149	2,807	2,956	27.0	34.0	33.5	30.1
Cecil	104	1,134	1,238	25.3	30.8	30.2	28.8
Charles	92	1,226	1,318	20.9	31.0	30.0	29.5
Dorchester	71	743	814	39.9	31.9	32.5	28.1
Frederick	128	2,820	2,948	21.7	33.0	32.2	31.6
Garrett	65	776	841	33.7	38.3	37.9	39.8
Harford	159	3,422	3,581	23.8	37.3	36.4	32.5
Howard	115	2,009	2,124	25.8	33.0	32.5	28.9
Kent	27	735	762	20.8	39.7	38.4	34.7
Montgomery	470	16,283	16,753	24.1	37.2	36.7	35.0
Prince George's	598	8,206	8,804	21.7	32.5	31.5	29.4
Queen Anne's	36	631	667	23.5	34.1	33.3	30.6
Somerset	37	587	624	23.3	35.2	34.2	33.7
St. Mary's	63	1,251	1,314	24.1	37.2	36.2	36.0
Talbot	42	1,052	1,094	26.8	35.1	34.7	29.9
Washington	210	3,678	3,888	30.2	39.3	38.7	38.1
Wicomico	133	1,918	2,051	29.1	38.2	37.5	34.1
Worcester	56	1,474	1,530	22.1	35.9	35.0	31.9
All Maryland	5,504	96,738	102,242	25.3	35.7	34.9	32.6

* Includes women with Medicare coverage and a 1998 MCDB record who received at least one mammogram; † the denominator includes all women with Medicare coverage with a MCDB record.; ‡ the denominator includes the population of women in the county covered by Medicare. Refer to the Appendix for further details on how the statistic was constructed.

Table 3.B.2: Percent of Women with Medicare Coverage who Received a Mammogram, Highest to Lowest by County and Eligibility Category, Estimates from the 1998 Maryland MCDB

County	Rank	Number of Women who Received a Mammogram*			Percent of Women who Received a Mammogram			
		Disabled	Aged	Total	Disabled (MCDB) †	Aged (MCDB) †	Total (MCDB)†	Total (County)‡
Allegany	1	166	3,085	3,251	33.8	39.9	39.6	39.7
Washington	2	210	3,678	3,888	30.2	39.3	38.7	38.1
Kent	3	27	735	762	20.8	39.7	38.4	34.7
Garrett	4	65	776	841	33.7	38.3	37.9	39.8
Wicomico	5	133	1,918	2,051	29.1	38.2	37.5	34.1
Baltimore	6	829	19,074	19,903	25.4	38.1	37.3	33.8
Calvert	7	78	1,079	1,157	32.9	37.4	37.1	34.7
Montgomery	8	470	16,283	16,753	24.1	37.2	36.7	35.0
Harford	9	159	3,422	3,581	23.8	37.3	36.4	32.5
St. Mary's	10	63	1,251	1,314	24.1	37.2	36.2	36.0
Worcester	11	56	1,474	1,530	22.1	35.9	35.0	31.9
Talbot	12	42	1,052	1,094	26.8	35.1	34.7	29.9
Anne Arundel	13	379	7,687	8,066	22.2	35.3	34.3	31.2
Somerset	14	37	587	624	23.3	35.2	34.2	33.7
Carroll	15	149	2,807	2,956	27.0	34.0	33.5	30.1
Queen Anne's	16	36	631	667	23.5	34.1	33.3	30.6
Howard	17	115	2,009	2,124	25.8	33.0	32.5	28.9
Dorchester	18	71	743	814	39.9	31.9	32.5	28.1
Baltimore City	19	1,444	14,472	15,916	26.7	33.2	32.5	30.9
Frederick	20	128	2,820	2,948	21.7	33.0	32.2	31.6
Caroline	21	53	563	616	28.3	32.0	31.7	27.8
Prince George's	22	598	8,206	8,804	21.7	32.5	31.5	29.4
Cecil	23	104	1,134	1,238	25.3	30.8	30.2	28.8
Charles	24	92	1,226	1,318	20.9	31.0	30.0	29.5
All Maryland		5,504	96,738	102,242	25.3	35.7	34.9	32.6

* Includes women with Medicare coverage and a 1998 MCDB record who received at least one mammogram; † the denominator includes all women with Medicare coverage with a MCDB record.; ‡ the denominator includes the population of women in the county covered by Medicare. Refer to the Appendix for further details on how the statistic was constructed.

Table 3.B.3: Percent of Women with Medicare Coverage who Received a Pap Smear, by County and Eligibility Category, Estimates from the 1998 MCDB

County	Number of Women who Received a Pap Smear*			Percent of Women who Received a Pap Smear			
	Disabled	Aged	Total	Disabled (MCDB)†	Aged (MCDB)†	Total (MCDB)†	Total (County)‡
Allegany	36	380	416	7.3	4.9	5.1	5.1
Anne Arundel	175	2,343	2,518	10.2	10.8	10.7	9.7
Baltimore	346	5,870	6,216	10.6	11.7	11.7	10.5
Baltimore City	423	3,426	3,849	7.8	7.9	7.9	7.5
Calvert	23	296	319	9.7	10.3	10.2	9.6
Caroline							
Carroll	54	677	731	9.8	8.2	8.3	7.4
Cecil	20	169	189	4.9	4.6	4.6	4.4
Charles	51	424	475	11.6	10.7	10.8	10.6
Dorchester							
Frederick	50	676	726	8.5	7.9	7.9	7.8
Garrett	38	290	328	19.7	14.3	14.8	15.5
Harford	81	1,214	1,295	12.1	13.2	13.2	11.8
Howard	53	569	622	11.9	9.3	9.5	8.5
Kent	8	137	145	6.2	7.4	7.3	6.6
Montgomery	269	7,466	7,735	13.8	17.1	16.9	16.1
Prince George's	331	3,161	3,492	12.0	12.5	12.5	11.7
Queen Anne's	10	102	112	6.5	5.5	5.6	5.1
Somerset							
St. Mary's	14	376	390	5.3	11.2	10.8	10.7
Talbot		46			1.5		
Washington	114	1,256	1,370	16.4	13.4	13.6	13.4
Wicomico		24			0.5		
Worcester	6	78	84	2.4	1.9	1.9	1.8
All Maryland	2,113	29,028	31,141	9.7	10.7	10.6	9.9

* Includes women with Medicare coverage and a 1998 MCDB record who received at least one Pap smear; † the denominator includes all women with Medicare coverage and a MCDB record; ‡ the denominator includes the population of women in the county covered by Medicare. Refer to the Appendix for further details on how the statistic was constructed. Shading indicates cell sizes that are too small to report.

Table 3.B.4: Percent of Women with Medicare Coverage who Received a Pap Smear, Highest to Lowest by County and Eligibility Category, Estimates from the 1998 Maryland MCDB

County	Rank	Number of Women who Received a Pap Smear*			Percent of Women who Received a Pap Smear			
		Disabled	Aged	Total	Disabled (MCDB) †	Aged (MCDB) †	Total (MCDB) †	Total (County) ‡
Montgomery	1	269	7,466	7,735	13.8	17.1	16.9	16.1
Garrett	2	38	290	328	19.7	14.3	14.8	15.5
Washington	3	114	1,256	1,370	16.4	13.4	13.6	13.4
Harford	4	81	1,214	1,295	12.1	13.2	13.2	11.8
Prince George's	5	331	3,161	3,492	12.0	12.5	12.5	11.7
Baltimore	6	346	5,870	6,216	10.6	11.7	11.7	10.5
Charles	7	51	424	475	11.6	10.7	10.8	10.6
St. Mary's	8	14	376	390	5.3	11.2	10.8	10.7
Anne Arundel	9	175	2,343	2,518	10.2	10.8	10.7	9.7
Calvert	10	23	296	319	9.7	10.3	10.2	9.6
Howard	11	53	569	622	11.9	9.3	9.5	8.5
Carroll	12	54	677	731	9.8	8.2	8.3	7.4
Frederick	13	50	676	726	8.5	7.9	7.9	7.8
Baltimore City	14	423	3,426	3,849	7.8	7.9	7.9	7.5
Kent	15	8	137	145	6.2	7.4	7.3	6.6
Queen Anne's	16	10	102	112	6.5	5.5	5.6	5.1
Allegany	17	36	380	416	7.3	4.9	5.1	5.1
Cecil	18	20	169	189	4.9	4.6	4.6	4.4
Worcester	19	6	78	84	2.4	1.9	1.9	1.8
Talbot	20		46			1.5		
Caroline	21							
Dorchester	22							
Wicomico	23		24			0.5		
Somerset	24							
All Maryland		2,113	29,028	31,141	9.7	10.7	10.6	9.9

* Includes women with Medicare coverage and a 1998 MCDB record who received at least one Pap smear; † the denominator includes all women with Medicare coverage and a MCDB record; ‡ the denominator includes the population of women in the county covered by Medicare. Refer to the Appendix for further details on how the statistic was constructed. Shading indicates cell sizes that are too small to report.

Table 3.B.5: Percent of Residents with Medicare Coverage who Received an Influenza Vaccine, by County and Eligibility Category, Estimates from the 1998 Maryland MCDB

County	Number who Received an Influenza Vaccine*			Percent who Received an Influenza Vaccine			
	Disabled	Aged	Total	Disabled (MCDB) †	Aged (MCDB) †	Total (MCDB) †	Total (County) ‡
Allegany	287	5,198	5,485	20.9	42.1	40.0	36.6
Anne Arundel	681	13,297	13,978	18.7	37.1	35.4	28.2
Baltimore	1,266	32,723	33,989	18.7	40.6	38.9	31.1
Baltimore City	1,454	20,163	21,617	12.0	30.6	27.7	21.8
Calvert	141	2,290	2,431	25.9	47.9	45.6	37.1
Caroline	70	1,068	1,138	17.9	36.9	34.6	26.0
Carroll	302	6,484	6,786	26.2	48.0	46.3	37.6
Cecil	210	2,867	3,077	22.8	47.0	43.8	34.2
Charles	197	2,616	2,813	21.1	40.3	37.9	31.9
Dorchester	123	1,696	1,819	29.1	44.0	42.5	33.2
Frederick	310	7,008	7,318	24.1	51.1	48.8	41.7
Garrett	147	1,649	1,796	30.8	49.3	47.0	41.7
Harford	241	4,820	5,061	17.4	32.2	30.9	24.1
Howard	171	4,823	4,994	19.8	48.6	46.3	36.9
Kent	64	1,636	1,700	23.3	51.7	49.4	39.5
Montgomery	845	35,775	36,620	21.1	50.6	49.1	42.7
Prince George's	905	16,789	17,694	15.9	41.5	38.3	30.5
Queen Anne's	81	1,519	1,600	26.2	47.4	45.5	36.3
Somerset	59	916	975	16.3	33.9	31.8	26.3
St. Mary's	137	2,633	2,770	21.0	45.6	43.1	37.1
Talbot	52	2,022	2,074	14.4	39.8	38.1	30.4
Washington	438	7,520	7,958	27.4	49.8	47.7	41.8
Wicomico	162	2,736	2,898	16.7	34.1	32.2	26.1
Worcester	115	3,125	3,240	22.2	43.0	41.7	35.5
All Maryland	8,462	181,432	189,894	18.0	41.6	39.3	32.1

* Includes Medicare beneficiaries in eligibility category with a 1998 MCDB record who received an influenza vaccine; † the denominator includes Medicare beneficiaries in eligibility category with an MCDB record residing in the county; ‡ the denominator includes the population of Medicare beneficiaries residing in the county. Refer to the Appendix for further details on how the statistic was constructed.

Table 3.B.6: Percent of Residents with Medicare Coverage who Received an Influenza Vaccine, Highest to Lowest by County and Eligibility Category, Estimates from the 1998 Maryland MCDB

County	Rank	Number who Received an Influenza Vaccine*			Percent who Received an Influenza Vaccine			
		Disabled	Aged	Total	Disabled (MCDB) †	Aged (MCDB) †	Total (MCDB) †	Total (County) ‡
Kent	1	64	1,636	1,700	23.3	51.7	49.4	39.5
Montgomery	2	845	35,775	36,620	21.1	50.6	49.1	42.7
Frederick	3	310	7,008	7,318	24.1	51.1	48.8	41.7
Washington	4	438	7,520	7,958	27.4	49.8	47.7	41.8
Garrett	5	147	1,649	1,796	30.8	49.3	47.0	41.7
Carroll	6	302	6,484	6,786	26.2	48.0	46.3	37.6
Howard	7	171	4,823	4,994	19.8	48.6	46.3	36.9
Calvert	8	141	2,290	2,431	25.9	47.9	45.6	37.1
Queen Anne's	9	81	1,519	1,600	26.2	47.4	45.5	36.3
Cecil	10	210	2,867	3,077	22.8	47.0	43.8	34.2
St. Mary's	11	137	2,633	2,770	21.0	45.6	43.1	37.1
Dorchester	12	123	1,696	1,819	29.1	44.0	42.5	33.2
Worcester	13	115	3,125	3,240	22.2	43.0	41.7	35.5
Allegany	14	287	5,198	5,485	20.9	42.1	40.0	36.6
Baltimore	15	1,266	32,723	33,989	18.7	40.6	38.9	31.1
Prince George's	16	905	16,789	17,694	15.9	41.5	38.3	30.5
Talbot	17	52	2,022	2,074	14.4	39.8	38.1	30.4
Charles	18	197	2,616	2,813	21.1	40.3	37.9	31.9
Anne Arundel	19	681	13,297	13,978	18.7	37.1	35.4	28.2
Caroline	20	70	1,068	1,138	17.9	36.9	34.6	26.0
Wicomico	21	162	2,736	2,898	16.7	34.1	32.2	26.1
Somerset	22	59	916	975	16.3	33.9	31.8	26.3
Harford	23	241	4,820	5,061	17.4	32.2	30.9	24.1
Baltimore City	24	1,454	20,163	21,617	12.0	30.6	27.7	21.8
All Maryland		8,462	181,432	189,894	18.0	41.6	39.3	32.1

* Includes Medicare beneficiaries in eligibility category with a 1998 MCDB record who received an influenza vaccine; † the denominator includes Medicare beneficiaries in eligibility category with an MCDB record residing in the county; ‡ the denominator includes the population of Medicare beneficiaries residing in the county. Refer to the Appendix for further details on how the statistic was constructed.

Table 3.B.7: Percent of Residents with Medicare Coverage who Received a Pneumonia Vaccine, by County and Eligibility Category, Estimates from the 1998 Maryland MCDB

County	Number who Received a Pneumonia Vaccine*			Percent who Received a Pneumonia Vaccine			
	Disabled	Aged	Total	Disabled (MCDB)†	Aged (MCDB)†	Total (MCDB)†	Total (County)‡
Allegany	39	999	1,038	2.8	8.1	7.6	6.9
Anne Arundel	95	2,181	2,276	2.6	6.1	5.8	4.6
Baltimore	186	4,849	5,035	2.8	6.0	5.8	4.6
Baltimore City	208	2,976	3,184	1.7	4.5	4.1	3.2
Calvert	17	254	271	3.1	5.3	5.1	4.1
Caroline		165			5.7		
Carroll	35	787	822	3.0	5.8	5.6	4.6
Cecil	26	386	412	2.8	6.3	5.9	4.6
Charles	32	347	379	3.4	5.4	5.1	4.3
Dorchester	18	244	262	4.3	6.3	6.1	4.8
Frederick	48	992	1,040	3.7	7.2	6.9	5.9
Garrett	31	256	287	6.5	7.7	7.5	6.7
Harford	34	857	891	2.5	5.7	5.4	4.3
Howard	19	530	549	2.2	5.3	5.1	4.1
Kent	8	244	252	2.9	7.7	7.3	5.9
Montgomery	101	4,495	4,596	2.5	6.4	6.2	5.4
Prince George's	125	2,327	2,452	2.2	5.8	5.3	4.2
Queen Anne's		181			5.6		
Somerset		90			3.3		
St. Mary's	14	270	284	2.1	4.7	4.4	3.8
Talbot	10	357	367	2.8	7.0	6.8	5.4
Washington	74	849	923	4.6	5.6	5.5	4.9
Wicomico	18	345	363	1.9	4.3	4.0	3.3
Worcester	15	386	401	2.9	5.3	5.2	4.4
All Maryland	1,169	25,384	26,553	2.5	5.8	5.5	4.5

* Includes Medicare beneficiaries in eligibility category with a 1998 MCDB record who received an influenza vaccine; † the denominator includes Medicare beneficiaries in eligibility category with an MCDB record residing in the county; ‡ the denominator includes the population of Medicare beneficiaries residing in the county. Refer to the Appendix for further details on how the statistic was constructed. Shading indicates cell sizes that are too small to report.

Table 3.B.8: Percent of Residents with Medicare Coverage who Received a Pneumonia Vaccine, Highest to Lowest by County and Eligibility Category, Estimates from the 1998 Maryland MCDB

County	Rank	Number who Received a Pneumonia Vaccine*			Percent who Received a Pneumonia Vaccine			
		Disabled	Aged	Total	Disabled (MCDB) †	Aged (MCDB) †	Total (MCDB)†	Total (County)‡
Allegany	1	39	999	1,038	2.8	8.1	7.6	6.9
Garrett	2	31	256	287	6.5	7.7	7.5	6.7
Kent	3	8	244	252	2.9	7.7	7.3	5.9
Frederick	4	48	992	1,040	3.7	7.2	6.9	5.9
Talbot	5	10	357	367	2.8	7.0	6.8	5.4
Montgomery	6	101	4,495	4,596	2.5	6.4	6.2	5.4
Dorchester	7	18	244	262	4.3	6.3	6.1	4.8
Cecil	8	26	386	412	2.8	6.3	5.9	4.6
Anne Arundel	9	95	2,181	2,276	2.6	6.1	5.8	4.6
Baltimore	10	186	4,849	5,035	2.8	6.0	5.8	4.6
Carroll	11	35	787	822	3.0	5.8	5.6	4.6
Washington	12	74	849	923	4.6	5.6	5.5	4.9
Harford	13	34	857	891	2.5	5.7	5.4	4.3
Queen Anne's	14		181			5.6		
Prince George's	15	125	2,327	2,452	2.2	5.8	5.3	4.2
Caroline	16		165			5.7		
Worcester	17	15	386	401	2.9	5.3	5.2	4.4
Charles	18	32	347	379	3.4	5.4	5.1	4.3
Calvert	19	17	254	271	3.1	5.3	5.1	4.1
Howard	20	19	530	549	2.2	5.3	5.1	4.1
St. Mary's	21	14	270	284	2.1	4.7	4.4	3.8
Baltimore City	22	208	2,976	3,184	1.7	4.5	4.1	3.2
Wicomico	23	18	345	363	1.9	4.3	4.0	3.3
Somerset	24		90			3.3		
All Maryland		1,169	25,384	26,553	2.4	5.8	5.5	4.5

* Includes Medicare beneficiaries in eligibility category with a 1998 MCDB record who received an influenza vaccine; † the denominator includes Medicare beneficiaries in eligibility category with an MCDB record residing in the county; ‡ the denominator includes the population of Medicare beneficiaries residing in the county. Refer to the Appendix for further details on how the statistic was constructed. Shading indicates cell sizes that are too small to report.

C. Receipt of Preventive Services by Medicare Beneficiaries with Selected Chronic Conditions

Organization of Tables

This section contains data on the number of Medicare beneficiaries in the MCDB with either diabetes or asthma, the percentage of the beneficiaries with diabetes who received one or more hemoglobin A1c test, and the percentage of beneficiaries with asthma who received one or more pulmonary function test during 1998.

County-level estimates of the number of Medicare beneficiaries with diabetes and rates of receipt of hemoglobin A1c are presented in Table 3.C.1; county rankings are reported in Table 3.C.2. Table 3.C.3 presents rates of receipt of hemoglobin A1c separately for Medicare aged and disabled beneficiaries.

The number of Medicare beneficiaries represented in the MCDB who were diagnosed with asthma are reported in Table 3.C.4 along with county-level rates of receipt of pulmonary function tests. County rankings on this health statistic are listed in Table 3.C.5. The proportion of Medicare aged and disabled beneficiaries with asthma who received a pulmonary function test during the year is reported in Table 3.C.6.

Approaches for Estimating Health Care Recipients with Selected Chronic Conditions and Related Caveats

Counts of the number of Medicare beneficiaries in the MCDB with diabetes or asthma were estimated as discussed in Section 2.D and are summarized below.

Diabetes – Two approaches were used to identify Medicare beneficiaries with diabetes. In the first approach, Medicare beneficiaries represented in the MCDB were identified as having diabetes if at least one MCDB record contained a diagnosis code (ICD-9) corresponding to diabetes. (Refer to the Appendix for a list of these codes). In the second approach, Medicare beneficiaries represented in the MCDB were identified as having diabetes if at least one record contained a diabetes diagnosis code *or* if the individual was found to have a procedure code corresponding to a hemoglobin A1c test.

Use of both diagnoses and procedure codes produces counts of the number of Medicare beneficiaries with diabetes that are nearly 6 percent higher than estimated using diagnoses codes alone. Counts of the number of Medicare beneficiaries in the MCDB with diabetes determined on the basis of diagnosis alone may under-estimate the actual count if either providers or health plans failed to report this information. For instance, if a beneficiary sought treatment for a condition unrelated to diabetes, the condition for which the patient sought treatment would be coded as the primary diagnosis and diabetes may appear as the secondary diagnosis. If the provider coded only the primary diagnosis or the health plan submitted only the primary

diagnosis to the MCDB¹², the estimated number of individuals with diabetes would underestimate the actual number of Medicare beneficiaries in the MCDB with this condition.

To the extent that services have been omitted from the MCDB (e.g., laboratory services provided by hospital outpatient departments), estimated rates of receipt of hemoglobin A1c tests computed using only diagnosis to identify the population of Medicare beneficiaries with diabetes may understate actual rates in this population. However, because counts of the number of individuals with diabetes may also be underestimated, the rates derived from the MCDB may more closely approach or even exceed actual rates.

Rates of receipt of hemoglobin A1c that were estimated using both diagnosis and procedure codes to identify the population of Medicare beneficiaries with diabetes may tend to overestimate the actual rate. This occurs because a subset of Medicare beneficiaries with diabetes are likely to not have received a hemoglobin A1c test or to have an MCDB record with a corresponding diabetes ICD-9; these individuals are therefore not included in the denominator.

Asthma - As stated in Section 2.D, because pulmonary function tests are not specific to asthma, receipt of this service could not be used to estimate the number of Medicare beneficiaries with this condition. Medicare beneficiaries with asthma were identified solely on the basis of diagnosis code.

MCDB estimated rates of receipt of pulmonary function tests among Medicare beneficiaries with asthma might understate actual rates due to omission of services, as listed in Table 1.1. However, counts of the number of Medicare beneficiaries with asthma may also be underestimated (as previously discussed) leading to estimated rates that are closer to and that possibly exceed actual rates.

¹² Although the majority of plans submitted between 3 and 4 diagnosis codes for each patient record, a total of 14 plans reported only 1 diagnosis code for each patient record contributed to the MCDB.

**Table 3.C.1: Percent of Medicare Beneficiaries with Diabetes who Received an HbA1c test,
by County, Estimates from the 1998 Maryland MCDB**

County	Number of Persons with Diabetes*		Number who Received an HbA1c		Percent who Received an HbA1c	
	Diabetics identified from ICD-9†	Diabetics identified from ICD-9 & CPT-4‡	Diabetics identified from ICD-9†	Diabetics identified from ICD-9 & CPT-4‡	Diabetics identified from ICD-9†	Diabetics identified from ICD-9 & CPT-4‡
Allegany	2,678	2,811	865	998	32.3	35.5
Anne Arundel	6,920	7,233	3824	4137	55.3	57.2
Baltimore	13,128	14,092	6716	7680	51.2	54.5
Baltimore City	14,720	15,564	6222	7066	42.3	45.4
Calvert	974	992	387	405	39.7	40.8
Caroline	631	678	247	294	39.1	43.4
Carroll	2,334	2,440	933	1039	40.0	42.6
Cecil	1,229	1,258	251	280	20.4	22.3
Charles	1,504	1,590	814	900	54.1	56.6
Dorchester	803	813	103	113	12.8	13.9
Frederick	2,681	2,832	1339	1490	49.9	52.6
Garrett	762	809	213	260	28.0	32.1
Harford	2,718	2,841	1507	1630	55.5	57.4
Howard	1,568	1,659	963	1054	61.4	63.5
Kent	584	603	219	238	37.5	39.5
Montgomery	10,409	11,265	6554	7410	63.0	65.8
Prince George's	9,744	10,315	5063	5634	52.0	54.6
Queen Anne's	602	622	323	343	53.7	55.1
Somerset	617	619	45	47	7.3	7.6
St. Mary's	1,357	1,380	700	723	51.6	52.4
Talbot	783	812	308	337	39.3	41.5
Washington	3,117	3,375	1732	1990	55.6	59.0
Wicomico	1,660	1,685	263	288	15.8	17.1
Worcester	1,306	1,318	122	134	9.3	10.2
All Maryland	82,875†	87,653	39,713	44,490	47.9	50.8

* Includes Medicare Beneficiaries with diabetes and a 1998 MCDB record; † includes Medicare beneficiaries with an MCDB record and a corresponding ICD-9 code between 250 – 250.9; ‡ includes Medicare beneficiaries with an MCDB record and a corresponding ICD-9 code between 250 – 250.9 or a CPT-4 code of 83036. The number of Medicare beneficiaries with diabetes is 11 percent higher than reported in a previous MHCC report (*A Profile of Clinical Preventive Services Provided to Maryland Medicare Beneficiaries with Diabetes: Focus on HbA1c and Eye Exams*, April 7, 2000) due to the inclusion of disabled beneficiaries. Refer to the Appendix for further details on how the statistic was constructed.

Table 3.C.2: Percent of Medicare Beneficiaries with Diabetes who Received an HbA1c test, Highest to Lowest by County, Estimates from the 1998 Maryland MCDB

County	Rank	Number of Persons with Diabetes*		Number who Received an HbA1c		Percent who Received an HbA1c	
		Diabetics identified from ICD-9†	Diabetics identified from ICD-9 & CPT-4‡	Diabetics identified from ICD-9†	Diabetics identified from ICD-9 & CPT-4‡	Diabetics identified from ICD-9†	Diabetics identified from ICD-9 & CPT-4‡
Montgomery	1	10,409	11,265	6554	7410	63.0	65.8
Howard	2	1,568	1,659	963	1054	61.4	63.5
Washington	3	3,117	3,375	1732	1990	55.6	59.0
Harford	4	2,718	2,841	1507	1630	55.5	57.4
Anne Arundel	5	6,920	7,233	3824	4137	55.3	57.2
Charles	6	1,504	1,590	814	900	54.1	56.6
Queen Anne's	7	602	622	323	343	53.7	55.1
Prince George's	8	9,744	10,315	5063	5634	52.0	54.6
St. Mary's	9	1,357	1,380	700	723	51.6	52.4
Baltimore	10	13,128	14,092	6716	7680	51.2	54.5
Frederick	11	2,681	2,832	1339	1490	49.9	52.6
Baltimore City	12	14,720	15,564	6222	7066	42.3	45.4
Carroll	13	2,334	2,440	933	1039	40.0	42.6
Calvert	14	974	992	387	405	39.7	40.8
Talbot	15	783	812	308	337	39.3	41.5
Caroline	16	631	678	247	294	39.1	43.4
Kent	17	584	603	219	238	37.5	39.5
Allegany	18	2,678	2,811	865	998	32.3	35.5
Garrett	19	762	809	213	260	28.0	32.1
Cecil	20	1,229	1,258	251	280	20.4	22.3
Wicomico	21	1,660	1,685	263	288	15.8	17.1
Dorchester	22	803	813	103	113	12.8	13.9
Worcester	23	1,306	1,318	122	134	9.3	10.2
Somerset	24	617	619	45	47	7.3	7.6
All Maryland		82,875	87,653	39,713	44,490	47.9	50.8

* Includes beneficiaries with diabetes and a 1998 MCDB record; † includes Medicare beneficiaries with an MCDB record and a corresponding ICD-9 code between 250 – 250.9;

‡ Includes Medicare beneficiaries with an MCDB record and a corresponding ICD-9 code between 250 – 250.9 or a CPT-4 code of 83036. Refer to the Appendix for further details on how the statistic was constructed.

Table 3.C.3: Percent of Medicare Beneficiaries with Diabetes who Received an HbA1c test, by County and Eligibility Category, Estimates from the 1998 Maryland MCDB

County	Percent in Eligibility Category Who Received HbA1c (Diabetics Identified from ICD-9 only) [†]		Percent in Eligibility Category Who Received HbA1c (Diabetics Identified from ICD-9 & CPT-4) [‡]	
	Disabled	Aged	Disabled	Aged
Allegany	38.3	41.2	31.7	34.9
Anne Arundel	44.7	56.3	46.7	58.2
Baltimore	41.1	52.0	45.1	55.3
Baltimore City	35.9	43.3	39.9	46.3
Calvert	39.3	39.8	40.4	40.9
Caroline	46.8	38.3	50.0	42.7
Carroll	47.5	39.3	50.0	42.0
Cecil	15.4	21.2	18.0	22.9
Charles	50.0	54.7	54.0	57.0
Dorchester	13.8	12.7	15.7	13.7
Frederick	44.7	50.3	52.1	52.7
Garrett	30.3	27.6	33.0	32.0
Harford	43.7	56.5	46.0	58.3
Howard	57.6	61.7	60.9	63.7
Kent	38.0	37.5	38.0	39.6
Montgomery	53.6	63.5	56.0	66.3
Prince George's	40.9	53.4	44.6	55.9
Queen Anne's	52.0	53.8	53.9	55.3
Somerset	5.6	7.5	6.9	7.7
St. Mary's	54.1	51.3	54.8	52.2
Talbot	42.4	39.1	43.3	41.4
Washington	53.2	55.8	57.8	59.1
Wicomico	14.3	16.0	15.2	17.3
Worcester	6.3	8.2	9.6	10.3
All Maryland	39.9	43.3	48.8	51.6

[†] Includes Medicare beneficiaries in eligibility category with a 1998 MCDB record and a corresponding ICD-9 code between 250 – 250.9; [‡] includes Medicare beneficiaries in eligibility category with a 1998 MCDB record and a corresponding ICD-9 code between 250 – 250.9 or a CPT-4 code of 83036. Refer to the Appendix for further details on how the statistic was constructed.

Table 3.C.4: Percent of Medicare Beneficiaries with Asthma who Received a Pulmonary Function Test, by County, Estimates from the 1998 Maryland MCDB

County	Number of persons with Asthma*	Number Receiving Pulmonary Test	Percent Receiving Pulmonary Test
Allegany	742	219	29.5
Anne Arundel	1,367	584	42.7
Baltimore	3,355	1,341	40.0
Baltimore City	2,919	972	33.3
Calvert	244	78	32.0
Caroline	145	51	35.2
Carroll	631	312	49.5
Cecil	376	137	36.4
Charles	293	101	34.5
Dorchester	160	44	27.5
Frederick	792	363	45.8
Garrett	120	30	25.0
Harford	693	228	32.9
Howard	350	135	38.6
Kent	138	33	23.9
Montgomery	2,991	1,345	45.0
Prince George's	2,138	896	41.9
Queen Anne's	216	73	33.8
Somerset	86	29	33.7
St. Mary's	267	127	47.6
Talbot	327	119	36.4
Washington	743	211	28.4
Wicomico	299	96	32.1
Worcester	347	149	42.9
All Maryland	19,751	7,679	38.9

* Includes Medicare beneficiaries in the county with asthma and a 1998 MCDB record; † includes Medicare beneficiaries with a 1998 MCDB record and a corresponding ICD-9 code between 493.0 – 493.9. Refer to the Appendix for further details on how the statistic was constructed.

Table 3.C.5: Percent of Medicare Beneficiaries with Asthma who Received a Pulmonary Function Test, Highest to Lowest by County, Estimates from the 1998 Maryland MCDB

County	Rank	Number of persons with Asthma*	Number Receiving Pulmonary Test	Percent Receiving Pulmonary Test
Carroll	1	631	312	49.5
St. Mary's	2	267	127	47.6
Frederick	3	792	363	45.8
Montgomery	4	2,991	1,345	45.0
Worcester	5	347	149	42.9
Anne Arundel	6	1,367	584	42.7
Prince George's	7	2,138	896	41.9
Baltimore	8	3,355	1,341	40.0
Howard	9	350	135	38.6
Cecil	10	376	137	36.4
Talbot	11	327	119	36.4
Caroline	12	145	51	35.2
Charles	13	293	101	34.5
Queen Anne's	14	216	73	33.8
Somerset	15	86	29	33.7
Baltimore City	16	2,919	972	33.3
Harford	17	693	228	32.9
Wicomico	18	299	96	32.1
Calvert	19	244	78	32.0
Allegany	20	742	219	29.5
Washington	21	743	211	28.4
Dorchester	22	160	44	27.5
Garrett	23	120	30	25.0
Kent	24	138	33	23.9
All Maryland		19,751	7,679	38.89

* Includes Medicare beneficiaries in the county with asthma and a 1998 MCDB record. Refer to the Appendix for further details on how the statistic was constructed.

Table 3.C.6: Percent of Medicare Beneficiaries with Asthma who Received a Pulmonary Function Test, by County and Medicare Eligibility Category, Estimates from the 1998 MCDB

County	Percent of Medicare Beneficiaries in Eligibility Category Who Received Pulmonary Test	
	Disabled	Aged
Allegany	33.7	28.9
Anne Arundel	32.4	44.6
Baltimore	33.8	40.6
Baltimore City	25.3	35.6
Calvert	24.2	33.2
Caroline	30.0	36.0
Carroll	51.3	49.2
Cecil	31.2	37.5
Charles	33.3	34.7
Dorchester	30.4	27.0
Frederick	45.2	45.9
Garrett	29.4	24.3
Harford	32.9	32.9
Howard	48.9	37.0
Kent	20.0	24.4
Montgomery	34.8	45.7
Prince George's	36.8	42.8
Queen Anne's	52.0	31.4
Somerset	23.5	36.2
St. Mary's	41.2	48.5
Talbot	26.7	37.4
Washington	38.3	27.0
Wicomico	20.5	33.9
Worcester	40.0	43.2
All Maryland	32.9	39.8

* Includes individuals with asthma and a 1998 MCDB record. Refer to the Appendix for further details on how the statistic was constructed.

Appendix

Development of Analytical File

The 1998 MCDB contained a total of over 47 million records. Records were excluded from the analytical file if (a) the patient identifier was missing, (b) the insurer was not the primary payer, (c) the service was not rendered in calendar year 1998, (d) the record was not a “final action” claim, or (e) the record corresponded to a technical or facility component of a procedure.

It was also necessary to eliminate MCDB records submitted by 4 private payers (Great Western Life, New England Life, New England Mutual and Metropolitan, and Trustmark) due to problems in the quality of data submitted.

Private payers represented in the 1998 MCDB and from which health statistics were calculated included:

- Aetna Life Insurance
- Aetna U.S. Healthcare
- Allianz Life
- American Republic
- Anthem Health
- CareFirst Blue Cross and Blue Shield of the District of Columbia
- CareFirst Blue Cross and Blue Shield of Maryland
- Celtic Life Insurance
- CIGNA
- Educators Mutual
- Employers Health
- First Allmerica Financial Life Insurance
- Fortis Benefits Insurance
- George Washington University Health Plan
- Golden Rule Insurance
- Guardian Life Insurance Company of America
- Innovation Health – Principal Health Care
- John Hancock Mutual Life Insurance
- Unicare Life and Health
- Kaiser Foundation Health Plans
- MAMSI Life and Health Insurance
- Maryland Fidelity Insurance
- MD - Individual Practice Association (MD-IPA)
- Mega Life Insurance
- National Group Life Insurance
- Pioneer Life Insurance
- National Health Insurance

- NYLCARE Health Plans of the Mid-Atlantic
- Optimum Choice
- PFL Life Insurance
- PHN-HMO
- Principal Health Care of Delaware
- Principal Mutual Life Insurance
- Prudential Healthcare Plans
- Prudential Insurance Company of America
- Reliastar
- Union Labor Life Insurance
- United Healthcare Insurance
- Mero Health (United Health Group)
- United Wisconsin Life Insurance
- Washington National Insurance

Health statistics for Maryland residents over the age of 65 years were based on either Medicare data or data submitted by one of the following Medicare-risk plans:

- Aetna U.S. HealthCare
- Care First Blue Cross and Blue Shield of Maryland
- CIGNA
- Kaiser Foundation Health Plans of the Mid-Atlantic
- NYLCARE Health Plans of the Mid-Atlantic
- Optimum Choice
- Prudential Health Care Plans
- United Health Care of the Mid-Atlantic

Over 3 million insured Maryland residents used outpatient services in 1998 and are represented in the health statistics reported.

Notes to Tables

- **Tables 2.C.1 – 2.C.3; 3.B.1 – 3.B.2**

Identifying women who received a mammogram: The number of women who received at least one mammogram during the 1998 calendar year was estimated by counting the number of female residents with at least one record with a corresponding CPT-4 code in the range 76090 – 76092 or an ICD-9 code of 87.36 or 87.37.

Calculating Mammography Rates: The denominator used in estimating mammography rates was specified in two ways:

- (1) total number of women with an MCDB record; and
- (2) total number of women as reported in the US Census Bureau Current Population Counts (www.census.gov).

Counts of the number of female Medicare recipients in the state and individual counties were obtained from the 1998 Health Care Financing Administration State and County enrollment figures (www.hcfa.gov).

- **Tables 2.C.4 – 2.C.6; 3.B.3 – 3.B.4**

Identifying women who received a Pap smear: The number of women who received at least one Pap smear during the 1998 calendar year was estimated by counting the number of female residents with at least one record with a corresponding CPT-4 code in the range 88150-88151; or a CPT-4 code in the range 88155-88157; or an ICD-9 code of V76.2 or 91.46; or a HCPCS code of P3000 or P3001.

Calculation of Pap Smear Rates: The denominator used in estimating Pap smear rates was specified in two ways:

- (3) total number of women with an MCDB record; and
- (4) total number of women as reported in the U.S. Census Bureau Current Population Counts (www.census.gov).

Counts of the number of female Medicare recipients in the state and individual counties were obtained from the 1998 Health Care Financing Administration State and County enrollment figures (www.hcfa.gov)

- **Tables 2.C.7 – 2.C.9; 3.B.5 – 3.B.6**

Identifying individuals who received an influenza vaccine: Individuals in the MCDB were identified as having received an influenza vaccination if at least one MCDB record contained a CPT-4 code of 90724 or 90737 or an ICD-9 code of 99.52.

Calculating Rates of Receipt of Influenza Vaccines: Alternative specifications of the denominator were used in calculating rates of receipt of influenza vaccines, including:

- (1) the total number of health care recipients with an MCDB record; and
- (2) the number of state residents as reported in the U.S. Census Bureau Current Population Counts (www.census.gov).

Counts of the number of Medicare recipients in the state and individual counties were obtained from the 1998 Health Care Financing Administration State and County enrollment figures (www.hcfa.gov).

- **Tables 2.C.10 – 2.C.12; 3.B.7 – 3.B.8**

Identifying individuals who received a pneumonia vaccine: Individuals were identified as having received a pneumonia vaccine if at least one MCDB record had a CPT-4 code of 90732; or a HCPCS code of G0009; or an ICD-9 code of V03.82.

Calculation of Rates of Receipt of Pneumonia Vaccines: Alternative specifications of the denominator were used in calculating rates of receipt of pneumonia vaccine, including:

- (1) the total number of health care recipients with an MCDB record; and
- (2) the number of state residents as reported in the U.S. Census Bureau Current Population Counts

Counts of the number of Medicare recipients in the state and individual counties were obtained from the 1998 Health Care Financing Administration State and County enrollment figures (www.hcfa.gov).

- **Tables 2.D.1 – 2.D.3; 3.C.1 – 3.C.3**

Identifying individuals with diabetes: Two approaches were used to determine the count of Medicare and privately insured residents with type 1 or type 2 diabetes:

- (1) health care recipients for which at least one E&M encounter had a corresponding ICD-9 code ranging between 250 – 250.9; and
- (2) health care recipients for which at least one E&M encounter had a corresponding ICD-9 code ranging between 250 – 250.9 or at least one record with a CPT-4 code of 83036.

Identifying individuals who received a hemoglobin A1c: Receipt of a laboratory test for hemoglobin A1c was concluded if a patient had at least one record with a corresponding CPT-4 code of 83036.

- **Tables 2.D.4 – 2.D.6; 3.C.4 – 3.C.6**

Identifying individuals with asthma: Health care recipients with at least one E&M encounter record with an associated ICD-9 code ranging between 493.0 – 493.9 were identified as having asthma.

Identifying individuals who received a pulmonary function test: Receipt of a pulmonary function test was concluded when patients had at least one record with a CPT-4 code of 78596; or a CPT-4 code in the range between 94010 – 94799; or an ICD-9 code of 89.37.